Adventures in Science Fiction Series

TRAVELERS OF SPACE

Edited by
MARTIN GREENBERG

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WILLY LEY

Illustrated by
EDD CARTIER

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SCIENCE FICTION DICTIONARY
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Foreword

THE NIGHT SKY has always filled mankind with wonder. Since the first time the mind of man began to reflect upon those sparkling lights dancing in the blackness above his head he has had an uneasy awe concerning them. History has recorded most of his speculations, but his curiosity has never been satisfied.

Now mankind is on the verge of space travel. The time is fast approaching when the questions about our neighboring planets and stars will no longer be of mere academic interest. The answers, one by one, will soon be forthcoming. Man no longer can cling to his detached viewpoint; as he builds his first space ship he must ask himself: What will I find?

As members of the human race, each of us, not alone the scientists who represent us, must face up to this question with all seriousness.

Anticipating the future, this third volume in our Adventures in Science Fiction series considers what we will find on other worlds. Before us stretches an infinity of unexplored territory. Surely there are other life forms which will be met. And from the outset we will be confronted with all sorts of problems.

In this book the authors tell us how science fiction visualizes life on the alien worlds of the universe. Willy Ley, in his introduction, presents the scientific analysis of what we can expect. And Edd Cartier, from the artist's tangible point of view, develops a few of the physiological possibilities.

Besides the fascinating problem of meeting new life forms, there are other, at least equally important problems. The space men will be hampered by public indifference and insufficient knowledge. New techniques in medicine and environmental adaptation will be needed. The science of psychology, still so imperfect, will have to embrace whole new alien races and cultures. A new generation of pioneers will develop to settle the outer planets and asteroids of our own solar system. From such advanced posts, expansion will continue to new frontiers spread out in the more distant star systems.

As man progresses outward, earth will hear many an adventurous tale of strange worlds and stranger life cycles. And with each tale will

come the remarkable exploits of men—our own fellow earthmen who will, as our representatives, be carrying our own culture and civilization into those far-distant corners of galaxy and universe.

Travelers of Space is that imaginative report of mankind probing, probing deeper into the night sky. This is the story of life on other worlds as it might well be in the future.

Martin Greenberg

I wish to thank Samuel A. Peeples for his wonderful preface to the dictionary and for his generous assistance in its compilation, Willy Ley for his excellent introduction, and David A. Kyle for his invaluable help in bringing to print this anthology, *Travelers of Space*.

Introduction: Other Life Than Ours

BY WILLY LEY

MEPHISTO:
From water, earth and air unfolding,
A thousand germs break forth and grow,
In dry, and wet, and warm, and chilly;
And had I not the Flame reserved, why, really,
Ther's nothing special of my own to show!
(Goethe: *Faust*, I.)

IN 1686 there appeared a book which was the first of a long line of works specifically concerned with life on other worlds. Its author was a French mathematician by the name of Bernard de Fontenelle and the title of the book was *Entretiens sur la Pluralité des Mondes*, or Discourses on the Plurality of Worlds.

In the preface to the book de Fontenelle explained his attitude by writing: "I have chosen that part of Philosophy which is most likely to excite curiosity; for what can more concern us than to know how this world which we inhabit is made; and whether there be any other worlds like it, which are also inhabited as this is?"

That this curiosity was shared by many others is fully evidenced by the success of the book. The Discourses became an immediate best-seller in the French original as well as in several translations; they also lasted for about one and a half centuries. And in their wake appeared a steady trickle of similar books, at the rate of about one a year.

Reading de Fontenelle's Discourses now one cannot help but feel that life was simpler in his day. The astronomical facts he had to keep in mind and which he presented to the general reading public consisted in the main of a knowledge of the relative distances of the major planets as seen from the sun. Mercury was closest, then Venus, then Earth, after that Mars, Jupiter and Saturn. Uranus, Neptune and Pluto were still unknown. So were the true distances,—de Fontenelle did know that Mars was farther from the sun than earth but

could not name a figure. As for the planets themselves nothing was known but their approximate sizes and one could gain an idea of their surface temperatures from the knowledge of their comparative distances from the sun. With only these few facts to hem him in, de Fontenelle could freely speak of the inhabitants of Mercury as exuberant damn fools and hotheads, of the inhabitants of Venus as amorous flirts, of those of Jupiter as learned philosophers and of those of Saturn as phlegmatic slowpokes who, because of the extreme cold, preferred to sit in one place all their lives.

As the years went on philosophy of that kind had to become more and more cautious. Just as every session of Congress complicates the legal picture by adding a number of new laws, so every successive generation of astronomers added a new set of discoveries. Most of them were discouraging, even though they added two new major planets at the outskirts of the solar system (Uranus and Neptune) and later on several thousand small, tiny and minute planetoids, mostly between Mars and Jupiter.

But the "inhabitants" were killed off, gradually and inexorably. First the selenites of the moon had to go when it was established that the moon had neither air nor water, at least not in detectable amounts. Then Mercury was recognized to be a world which always turns one side to the sun, with the result that the sunward hemisphere became hot enough to melt tin and lead while the far hemisphere was cold enough to freeze oxygen and nitrogen. Then Jupiter was supposed to be still mostly molten lava (the same thought was expressed, more tentatively, with regard to Saturn) while Uranus and Neptune were declared frozen stiff. That left Venus, Mars and the moons of Jupiter as possible places for inhabitants. But then actual measurements showed that Jupiter was colder than Antarctica and better telescopes proved that its four large moons were atmosphereless like our own.

To condense knowledge, argument and deduction to the minimum: at present we can hope for life (as distinct from "inhabitants") only on Venus and Mars. The trinity Venus-Earth-Mars comprises the temperature range in which life is possible, the coldest areas of Venus probably corresponding to our equator, the warmest areas of Mars corresponding to our sub-arctic. You will have noticed that I said "probably" in one case and did not do so in the other. The reason is that nobody has ever succeeded in seeing the surface of Venus. We know practically nothing about that planet. But we do know Mars, and by now most astronomers are agreed that the seasonal changes of coloration of Mars are actually due to plant life of some sort, presumably our plant life in high latitudes and at high altitudes.

In our solar system, therefore, there is life on Earth and on Mars, with Venus as a probability.

But just a moment, I hear quite a number of people complain, aren't you too conservative by far about a hidden assumption at this point? The temperature range of these three planets may comprise the temperature range for carbon life, life based like that of earth on large and complex carbon molecules. How about life based on a different kind of chemistry? Hence bound to a different temperature range?

Of course my statement was based on carbon life, oxygen-breathing and using H_2O as the body fluid. As for other types of life, based on a different chemistry, one has the choice of assuming that it either is impossible or else that we don't know enough chemistry to visualize it. The one which is most obvious to a chemist as a possibility is silicon life, based on silicon instead of carbon. True, chemists have succeeded in making the silicon equivalents of alcohol, of formic acid and of chloroform and more recently silicon compounds have become industrially important. But when it comes to life processes there are some additional points to watch. For example: we carbon-type oxygen breathers exhale a compound consisting of one carbon atom and two oxygen atoms, CO_2. That happens to be a gas and getting rid of it is easy. But the silicon equivalent is SiO_2, silica, an exceedingly hard substance. One could imagine that it may flake off the skin or be fashioned into skeleton and armor; but the physical characteristics of SiO_2 are not the only shortcoming. Silicon does not combine well with hydrogen and if it does the compound breaks down at once if free oxygen is present. And whether silicon can form the long and complicated chains which are so characteristic for carbon is at least doubtful.

If it is difficult to imagine (or even calculate) the chemistry of silicon life it is completely impossible to go that far even when another element is picked as the presumed basis for living molecules. Maybe we simply don't know enough chemistry yet, but until we do we'll just have to restrict our thinking to carbon life.

Not as if carbon life were not adaptable enough by itself. The plants which eke out a life at 12,000 feet above sea level in a rarefied atmosphere under a wide range of temperature changes are carbon life. So are the plants growing in salt water with practically no temperature change 600 feet below the surface. The fish which lives in the small supply of bad water in weed-choked puddles in the middle of Death Valley is carbon life. And so is the fish which skims over the bottom mud of the oceans 6000 feet down. The arctic fox which keeps its blood not only liquid but warm in an environment consisting

largely of ice and snow, and the desert fox which keeps its blood liquid under the heat and dryness of the African desert are not only both mammals, they are closely related to each other.

Carbon life itself can go through an enormous temperature range; there are algæ in the hot springs of Yellowstone Park which live in water rather close to the boiling point. On the other hand there are insects in Alaska which are most active when the temperature is at the freezing point of water. If you hold them in your hand you kill them, because your hand is far too warm for them. There are earthly plants and animals which would do well on (imaginary) planets that would look at first glance as if they could not possibly support life for any one of half a dozen mutually exclusive reasons. And we don't even have to mention certain types of bacteria on earth, like those which do not like free oxygen, or those which thrive when the surroundings are "poisoned" by methane or hydrogen sulphide.

Here a side question comes in. Supposing there is only the admittedly adaptable carbon life. And supposing there are planets which can support such life. Can we assume that there is life on a planet merely because the planet can support life?

This, of course, is a difficult question, but most of the scientists who have thought about such problems will be willing to make that assumption. Condensing knowledge, argument and deduction once more to the possible minimum your choice lies between the two ideas of spontaneous generation and panspermy. Each has its difficulties.

As regards spontaneous generation whole generations of scientists have worked hard to prove that it does not take place. If you sterilize a wound properly no infection will take place because the bacteria do not originate in the wound—no matter how messy it may look to the layman—but have to come from elsewhere where they originated from other bacteria. And you can have the nicest nutrient solution for animalcules imaginable,—if you sterilize it properly no animalcules will appear in it. The counter-argument is, of course, that since we have life on earth it must have originated at some time.

The search for a way out of this dilemma between established medical fact on the one hand and theoretical necessity on the other seems to have boiled down to a somewhat surprising realization. Namely: one of the main conditions for spontaneous generation is that it has not yet taken place! The meaning of this sentence is this: it has been experimentally established that ultra-violet radiation (from the sun) will work small chemical miracles in a mixture of water, carbon dioxide and ammonia, as "anorganic" a mixture as one can imagine. Under the action of ultra-violet light "organic" sub-

stances are formed, including sugars and compounds which look as if they were building blocks of the proteins. You can, then, given only a sun which throws off ultra-violet, and a planet with water, carbon-dioxide and ammonia, imagine whole lakes filled with a soup of sugars and protein building blocks in all stages of complexity. If we had this now anywhere it would decay almost immediately, because the existing micro-organisms would go to work on it. If you don't have any micro-organisms yet they will, after a necessary time interval, be built up by this very process.

But the thought that micro-organisms may come from elsewhere—out of cosmic space in this case—is permissible too. It was especially the Swedish physicist Svante Arrhenius who developed this idea and who coined the word panspermy. Arrhenius combined the established facts that the light from a star exerts pressure *against* gravitation if the body involved is small enough, that bacterial spores can withstand the conditions in empty space for very long periods, and, finally, that bacterial spores are of the "right size" to ride light pressure and he postulated that all space is filled with dormant spores. They will fall upon all planets continuously and if conditions are good and suitable for their development they will develop.

Put the two sides of the argument together and you get the conclusion that spontaneous generation really had to take place only once. That, if that place was earth, our planet has left a long wake of life seeds in the cosmos, ready to germinate elsewhere. I may add here that there are some scientists right now who find it easiest to explain the flare-up of sudden and "new" epidemics by believing in microscopic invasions from space.

There is still one other problem to be investigated. All right, either spontaneous generation or panspermy will cause life on a planet. And because of the observed adaptability even of carbon life alone these "infested" planets can be quite dissimilar, even though they will have to be within a certain temperature range, have water and at least carbon dioxide in their atmosphere, put there, presumably, by volcanic action. (If there is carbon dioxide, the processes of photo-synthesis in which most plants excel will produce free oxygen soon enough.)

But are there other planets?

All through the nineteenth century this question simply did not exist. There were two theories of planet formation around, one by the German philosopher Immanuel Kant, the other by the French mathematician Pierre Simon Laplace; usually they were lumped together as the Kant-Laplace Theory. But both (and their combination) stated that a sun would produce planets as a matter of course.

Then, around the year 1900, a few scientists began to wonder about the validity of these two theories and found that they had to be given up. Several other ideas were substituted. One operated with a glancing blow of two passing stars. Another decided that a close approach was good enough to cause enormous tidal waves on both and that it did not need actual contact. A third, hard pressed by some difficulties in the other concepts, insisted that it had to be an encounter between a single star and a binary or double-star. And as this went on there seemed to emerge an unavoidable consequence. Star encounters, because of the enormous distances involved, had to be rare. An encounter, at just the right distance and the proper velocity, between a single star and a binary had to be even rarer. Possibly it had taken place only once. If so, there could be only two suns with planets in the whole galaxy: our own and the "other" which had caused our planets and naturally secured a few of its own in the process.

The exposition of all this ended with the statement that *Homo sapiens* was completely alone on a lofty pinnacle, for the compelling reason that there were no other pinnacles.

This conceit broke down during the early days of World War II. One of the major and successful attacks against it was delivered by Dr. Lyman Spitzer of Harvard who quietly proved that the whole mechanism of glancing blow, or close approach, with or without binaries, would not work. Anything like that would produce a filament of star matter in space, as the theories demanded, but this filament would, under no circumstances, condense itself into planets. It would expand so rapidly that the mutual gravitational attraction of the molecules would not have a chance. Great celestial fireworks, but no planets. Doctor Spitzer's work left astronomers temporarily without any hypothesis of plant formation whatever. Actually, Dr. Spitzer had just demolished something, but it was the demolition of a hazard and an eye sore.

Soon afterwards K. Aa. Strand of Sproul Observatory, Swarthmore College, announced the discovery of a dark companion of the double star 61 Cygni, a companion of planetary size. Other such dark companions were found on other nearby stars. They are all very massive, else we could not have found them. And where there are massive companions there are obviously smaller ones too. And again a few years later new theories of the formation of planetary systems were advanced, notably by Dr. Karl von Weizsäcker and by Dr. Gerard P. Kuiper. They still remain to be tested mathematically. But they work without rare catastrophes and they all lead to the conclusion that virtually every sun ought to have planets.

So we now have good reason to believe in millions of planets elsewhere in the galaxy. And we can start out on another type of speculation, based on much firmer grounds than those upon which de Fontenelle had to stand.

We can reason like this: Our island universe, our galaxy, contains at least 15 billion suns. They are of all types, tenuous Red Giants and feeble Red Dwarfs, sputtering Wolf-Rayet stars and highly compressed White Dwarfs, periodically exploding U-Geminorum stars and pulsating variables of all kinds. And in between all those strange stars there lies the majestic Main Sequence of normal stars of which our sun is one of the lesser and Sirius one of the more prominent members. Being as pessimistic as is consistent with good sense we'll put the number of suns with planets down as one billion, or 1,000,000,000. Each of these can be expected to have at least two planets of the type of Earth and Mars. This gives us two billion planets in our galaxy that can be expected to harbor life.

If we say that just one out of a hundred of these planets has progressed far enough in the evolutionary scale to produce intelligent life of some sort, we arrive at the fantastic figure of twenty million planets with intelligent beings. Again, if only one out of a hundred of these intelligent types has progressed as far in the engineering sciences as we have, we get two hundred thousand planets on the verge of space travel.

And if, again, one out of a hundred is no longer just "at the verge" ——but here begins the realm of science fiction.

Willy Ley

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Adventures in Science Fiction Series

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TRAVELERS OF SPACE
Edited by Martin Greenberg
Introduction by Willy Ley
Illustrations by Edd Cartier

Preface

IN A LARGE Pacific Coast bookstore, a browser picked up a copy of Isaac Asimov's *I, Robot* and, with a puzzled frown, examined it. As a clerk came up, the prospective buyer held out the book.

"It's science fiction, I know," he said. "But what's it all about?"

A few moments later I stood before the display of science fiction and marveled at the choice of books which a few years ago hadn't existed. I had no doubts about what it was all about. At least I thought I hadn't. After all, I'd read fantasy and science fiction for twenty years—a veteran at the age of 32, I thought, and had to laugh. And yet there was something which the other fellow had said. . . .

"Half the time I don't savvy what they're talking about—parsecs and space-warps and androids—heck, it sounds like a refresher in higher physics!"

. . . why, the thought struck me, the guy was right! It was a problem of familiarity, not higher education. I write Western novels, so I drew a comparison: the average reader reads a Western—about surcingles, bits, single-action Colts, hog-tieing, jingle-bobbing and takes them in his stride. Not because of actual experience or training, but a familiarity with the terms in relation to the story. And he enjoys that familiarity.

A lot of reasons have been assigned to the present popularity of science fiction. For myself, I read it because it's *different*, a sort of entertainment that requires some mental cooperation for the fullest enjoyment. A great many book buyers must take home science fiction for that reason. And it is for them, the casual reader, that the science fiction dictionary in this anthology has been devised.

No pretense is made that this is a complete dictionary. The unlimited scope of the field itself prohibits a complete reference work. But certain words and terms have, as in Western or Detective fiction, become standard and the science fiction writer feels no explanation or definition is required. It is these commoner words and terms that are treated in this dictionary.

Science fiction, *per se*, is not a new form of literary expression.

Only the present popularity of the form is new, for imaginative fiction is as old as man's imagination. It has carried many labels through the years, ranging from Scientifiction to Romances of Science. As in Detective or Mystery or Western or Supernatural fiction, any definition must be of an arbitrary nature. A Detective story, for example, may be a comedy, a romance, or a tragedy; it may be logical or illogical; it may be compounded of whole fiction, or a literal fictional presentation of an actual occurrence. So, like science fiction, there is no set rule-of-thumb to go by. Like any fiction story with no set pattern or style within the form, the piece may be pure romance, character-study, pseudo-technical treatise, history, exposé or hoax.

The earliest American publication readily identifiable as science fiction is *Symzonia* by Adam Seaborn (presumably a pseudonym for John C. Symmes), published in New York in 1820. The first widespread popularization of the form came with Jules Verne's successes. It is interesting to note that even after a hundred years science has not yet caught up with the imaginative genius of Jules Verne.

By 1900 magazines both in the United States and Great Britain had accepted science fiction as legitimate romance, and stories by H. G. Wells, Garrett Putnam Serviss and George Griffith gained enormous public interest. But it remained for Hugo Gernsback in 1926 to bring forth the first magazine devoted exclusively to the form. The first issue of Gernsback's *Amazing Stories* was dated April, 1926. In rapid succession in the next decade a host of similar magazines appeared. Some few of them have thrived or have been revived for the present day, with strange or lurid titles proclaiming "Amazing," "Astonishing," "Astounding," "Fantastic," "Cosmic," "Dynamic," "Wonder," etc.

These magazines, devoted almost exclusively to science fiction, evolved the first comprehensive story patterns. But the type was not science fiction as it is known today; the pulp magazine formula called for over-powering action with little characterization or plot. There were exceptions, of course—stories by Taine, E. E. Smith, Keller, Cummings, Merritt, Kline, Burroughs. The fact that even today their stories of the twenties and thirties are being reprinted is testimony that what they wrote was entertaining by any standard.

One of the earliest of those magazines was *Astounding Stories*, originally published by Clayton Magazines and later by Street and Smith. It followed in Gernsback's footsteps until the second major change in science fiction occurred. Under the guidance of a young science fiction writer, John W. Campbell, Jr., *Astounding Stories* made the first break with the stilted, tongue-in-cheek attitude most editors had assumed toward the form. Prognostication was put on a

scientific basis, and writers were urged to speculate without limitation, saving only logic. It is significant that almost every novel-length story since 1938 published in *Astounding Stories*, or *Astounding Science Fiction*, as it is now known, has been re-published in hard covers for the entertainment of a far less specialized audience.

Today the magazine stalls are crowded with science fiction publications. Some of the old magazines, notably *Astounding Science Fiction*, *Thrilling Wonder Stories*, and *Startling Stories*, are carrying on in fine style, but there are fine new publications, setting even higher standards, such as *Galaxy Science Fiction*, under the guidance of Horace L. Gold. The old pulp format has been giving way to semi-slick presentation. Men like Ray Bradbury and Isaac Asimov and a host of others are doing more than writing science fiction—they are writing *stories*, of a calibre equal to that in any literary form. The new magazine titles and quality of stories are varied. How many will survive remains to be seen. But their number is proof of current public interest.

But, as that book buyer had asked, *what is it all about?* The question is almost unanswerable. What do *you* expect from a story? Imagination, provocative ideas, action, glamorous settings, terror or suspense? Science fiction excels in these. But a definition is impractical. About the only limitation is the use of a scientific basis—and then it's up to the writer's ingenuity.

Who hasn't wondered what it would be like to be the last man alive? Or about the future? Or the challenging mystery of the stars? Who hasn't escaped his workaday life in a few wonderful hours of reading?—And in order to help you enjoy the escapism of science fiction, the fullest adventure in imaginative reading you will ever find, is the purpose of the dictionary that follows. Glance through it, not as a chore or a task, but simply for the fun of finding the romance of words, words unknown a few years ago. It is exciting adventure in itself, for you can absorb without study, learn without trying; and the full scope of science fiction will be open to you. These words are becoming a part of the American language; new ones are appearing every day—and you'll find them first in science fiction. To the new reader of science fiction, to you to whom these words are directed, goes my heart-felt wishes for enjoyment—and all my envy!

Samuel Anthony Peeples

A Dictionary of Science Fiction

ANDROID—Literally "resembling a man." Given generally to "thinking" machines, *i.e.*, automatons, robots, etc. The primary difference arbitrarily assumed by most SF writers between a "robot" and an "android": a robot's actions are purely mechanical, but an android is capable of thought. However, sometimes the author follows the rule of physical appearance: a robot looks machinelike while an android looks humanlike. Two excellent extrapolations of automatons are *I, Robot* by Isaac Asimov (Gnome Press, N.Y. 1950) and *The Humanoids* by Jack Williamson (N.Y. 1949). In the first, a future history of robots is outlined, outstanding for the thematic variations. In the second novel, the effect of automatons (of non-human origin) on humanity is studied. In a lighter vein, the "Adam Link" short stories by Eando Binder cover much robot characterization now considered standard. This series was anthologized partially, notably in *The Other Worlds* edited by Phil Stong (N.Y. 1941). (See: ROBOT)

ASTEROID—Literally "starlike." Used generally to define a small planet in orbit between Mars and Jupiter. Used also for minor, usually unnamed planets and planetoids. Passage through the "asteroid belt" dividing the inner and outer planets has often made exciting story material. SF theories for interplanetary background range from an origin of an exploded unknown planet to world-collision debris. Unusual variants with unique problems are presented by Will Stewart (Jack Williamson) in two *CT* novels, *Seetee Shock* (N.Y. 1949) and *Seetee Ship* (Gnome Press, N.Y. 1951).

ASTROGATOR—Coined from Astrognosy, the science of fixed-stars. Implies someone qualified to navigate among the stars; an extraterrestrial navigator in the common sense. Astrogation (also Astronautics) in SF is considered an exact science, although the many problems of three-dimensional space navigation are still to be met and solved. Considered *de facto* in SF, some scattered short stories have outlined this science.

ATOM—A unit of minute "energy" particles. SF has considered the possibility of smaller particles forming the atomic particles, perhaps *ad infinitum*. Thus, besides space-exploration (macrocosm), SF writers have journeyed into tiny atomic worlds (microcosm). Ray Cummings pioneered in stories of the atom-worlds, his earliest being *The Girl in the Golden Atom* (N.Y. 1923). A similar approach was considered in *The Green Man of Kilsona* (or *Graypec*) by Festus Pragnell (London 1936), but modified by Will Garth in *Dr. Cyclops* (N.Y. 1940). (See: NUCLEAR PHYSICS; DISINTEGRATOR)

B.E.M.—"Bem" or "Bug-Eyed Monster." Used to designate unreasonable monstrosities for mere story sensationalism. The problem of creating believable alien life has always confronted SF writers and even contemporary space travel stories are guilty of illogical grotesqueries invented as unusual "monsters." Writers, however, are now more apt to concern themselves with the logic of their ingenious creations, both psychologically and physiologically. The two central stories of A. E. van Vogt's *Voyage of the Space Ship Beagle* (N.Y. 1950) illustrate the attempt at this standard. Just as the painstaking physical detail of alien life forms by Edgar Rice Burroughs in his Martian and Venerian stories added convincing authenticity to his works, attention to psychological aspects makes for entertaining, as well as thought-provoking, fiction. Examples are *A Martian Odyssey* by Stanley G. Weinbaum (Reading, Pa. 1949), representative of all his other work, and *The Martian Chronicles* by Ray Bradbury (N.Y. 1950). (See: BIOLOGY)

BIOLOGY—Although SF has treated innumerable aspects of biology, the emphasis has been on the human element. The final evolutionary stages of human life concerned H. G. Wells in *The Time Machine* (N.Y. 1895). Thematic variants are in S. Fowler Wright's works, *e.g.*, *The World Below* (London 1930), and Olaf Stapledon's *Last and First Men* (London 1930). Of recent years, with attention to atomic energy, emphasis has shifted from evolution to mutation. John Taine's remarkable *Seeds of Life*, first published in magazine form in 1931, considered this theme. (See: B.E.M.; SUPERMEN)

BLASTER—SF term for hand weapon. Also descriptive of tools for mining operations on alien worlds employing atomic energy or disintegration. The variety of hand weapons is endless, mostly described as "ray guns" ranging from deadly "rays" (usually hard radiation) to sonic disturbance. A sonic-blaster destroys the molecular balance, adjustable to kill or maim; a heat-blaster employs direct or sympathetic radiation; a disintegrator totally destroys matter by molecular dis-

semination. Particulary vivid use of ray guns is found in *Maza of the Moon* by Otis Adelbert Kline (Chicago 1930) and in the "Lensmen" series by Dr. E. E. Smith. (See: DISINTEGRATOR; WEAPONS)

BLAST-OFF—The initial expenditure of energy by a space ship leaving a planet, or in emergency takeoffs.

BOTANY—A science greatly explored by SF writers. John Taine, in particular, investigated botanical ideas, *e.g.*, *The Forbidden Garden* (Reading, Pa. 1947), as did H. G. Wells in *The Island of Dr. Moreau* (Chicago 1896). Sentient plant life is a common SF subject. Edgar Rice Burroughs is noted for his detailed strange, quasi-human plants in his Martian, Venerian and Pellucidarian stories. Mineral life has also been suggested in SF, A. Merritt presenting an exceptionally vivid picture in his early *The Metal Monster.*

CHANGELING—Applied in SF to those who undergo personal metamorphosis. The changes range from human to animal, animal to human, and human to superman. Excellent examples of changelings are to be found in the writings of A. E. van Vogt. (See: SUPERMEN)

COMET—In science, a luminous celestial body. In SF, a basis for threatening Earth's destruction, but an unusual story by Austin Hall, *The People of the Comet* (Los Angeles 1948), humorously treated with cometary inhabitants. Another unusual Earth-comet collision novel is *The Second Deluge* by Garrett P. Serviss (N.Y. 1912) in which the outer space visitor is a great water nebulæ or spiral. A nonfiction book of interest is *Worlds in Collision* by I. Velikovsky (N.Y. 1950). (See: WORLD CATASTROPHE)

CONTRATERRENE—(See: SEETEE)

CT—(See: SEETEE)

CYBERNETICS—The science of "thinking machines," *i.e.*, machines with an electronic memory. In SF, this new science's future is elaborately explored. A most striking example of such possible "giant brains" is the Game Machine in A. E. van Vogt's "Null-A" stories.

DIMENSIONS—In SF other dimensions, besides our perceptible three of length, breadth and thickness, are often used. Most often the new dimension creates a new plane of existence, frequently with its own alien life. SF visualizes an infinite number of spheres of existence occupying the same time and space. The "fourth dimension" of Time or duration is the most common, with or without the additional plane of existence. The mode of transportation varies greatly from precise SF explanations (*The Time Machine* by H. G. Wells,

N.Y. 1896) to unscientific incantations which SF purists decry. *Romance Island* by Zona Gale (Indianapolis 1906) was an early investigation of this theme while a more descriptive extra-dimensional jaunt is described in Dr. E. E. Smith's *Skylark of Valeron* (Reading, Pa. 1948). Fredric Brown speculates amusingly in his *What Mad Universe* (N.Y. 1949). *The Ship of Ishtar* by A. Merritt (N.Y. 1926) is a beautiful extra-dimensional fantasy. Other treatments include: *Sidewise in Time* by Murray Leinster (Chicago 1950) and the Fletcher Pratt and L. Sprague de Camp books, *e.g.*, *The Castle of Iron* (Gnome Press, N.Y. 1950). In a book of the provocative land of *The Well of the Unicorn* by George U. Fletcher (N.Y. 1948) the story is presented with no stress on the extra-dimensional SF theories. (See: TIME TRAVEL)

DISINTEGRATOR—An SF weapon or tool. Nuclear reaction chains are frequently used, but other methods of disintegration are common, *e.g.*, sonic disturbances, electronics. The heat consumption of matter by electricity or electronics is in actual use today; heatless "electronic" ovens cook food by ultra-short waves or radiation which, for example, leave hotdogs "broiled" while leaving a wax paper wrapping unharmed. (See: BLASTER; WEAPONS; ATOM)

DOPPLER EFFECT—In science, the "color" of light seems to change with the rapid motion of its source. Used much by astronomers for investigations, in SF this phenomenon has various interpretations, such as in the Dr. E. E. Smith novels. Two interesting conceptions used in "space operas" are: first, a space ship at the speed of light brings absolute (literal) darkness; second, at such a speed an endless series of light-images of the vessel pace the movement of the craft to infinity. (See: LORENTZ-FITZGERALD CONTRACTION)

ENERGY BEAM—In SF, transmission of power from source to user without wires. Non-leakage or "tight" ultra-frequency beams are used in SF to "broadcast" power to vehicle or home user while registering it on a meter as consumed. Variants of this theory are applied to all types of power: atomic, cosmic, space-warp, electrical, etc. An especially logical application of this wireless transmission of energy is developed by George O. Smith in *Venus Equilateral* (Phila. 1947).

E.S.P.—Extra Sensory Perception, the possession of true foreknowledge. Scientists are seriously investigating E.S.P., notably Duke University experimenters. In SF, E.S.P. is often commonplace, particularly in the case of exceptional mentalities and mutants. (See: BIOLOGY) A. E. van Vogt's *Slan* (Sauk City, Wisc. 1946) is an excellent example of the use of this E.S.P. theme. Many writers depict mutants with the ability to read and often control other minds.

E.T.P.—Extra Temporal Perception, mental viewing of the future or past. Like E.S.P. (above), but with no barriers of time or distance. Striking use of E.T.P. is made by Lewis Padgett in *The Fairy Chessmen* and *Tomorrow and Tomorrow* (Gnome Press, N.Y. 1951).

FORCE-FIELD—SF speculation in hyper-physics, concerning the conflict of planetary gravitational fields generating energy. Variants include cosmic energy—the unknown force driving interstellar particles of cosmic dust, etc.—space-warps involving energy created by Time changes over vast areas, recovery of lost solar energy and radical temperature differences in outer space. Used in SF terminology, however, primarily to describe a defensive screen against all sorts of missles and rays. (See: SPACE-WARP; WEAPONS)

FREE FALL—Used in SF interplanetary stories to imply non-gravitational motion, usually under accumulated inertia. Other usages: to indicate a fall out of control; to fall into the gravitational influence of a planet without use of power.

FUTURE HISTORY—A limitless theme in SF. George Orwell's *1984* (N.Y. 1949) limits itself to a short viewpoint while Olaf Stapledon's *Last and First Men* (London 1930) treats all human existence. Individual examples are innumerable, but two current treatments are noteworthy: an anthology assembled to form a past and future history of mankind, *Journey to Infinity* edited by Martin Greenberg (Gnome Press, N.Y. 1951), and Robert A. Heinlein's "Future History" series, of which *The Man Who Sold The Moon* (Chicago 1950) is the first.

FUTURE WAR—Another limitless theme in SF. Striking examples of forecasting actual events are plentiful, *e.g.*, *Invasion!* by Whitman Chambers (N.Y. 1943) and *Destroyer* by Steve Fisher (N.Y. 1941). Other prophecies: the atom bomb in 1889 by Frank R. Stockton in *The Great War Syndicate*, aerial warfare by H. G. Wells (c. 1895), and the submarine by Jules Verne (c. 1873). SF is constantly plagued with new facts outmoding old speculations, which in turn, however, create new subject matter. In SF, a favorite pastime of writers has been the devising of future weapons, *e.g.*, *Pattern for Conquest* by George O. Smith (Gnome Press, N.Y. 1949). (See: WEAPONS)

GRAVITY BELT—Also Anti-Gravity Belt. Often used in SF to permit an individual to minimize or eliminate his weight. Of many theories, one of the most unique was described by Edgar Rice Burroughs in his Martian stories as the effect of "Barsomian rays." (See: GRAVITY-PLATES)

GRAVITY PLATES—Usually described in SF as electrical apparatus to diminish the gravitational pull of any planet. Used to permit a person or vehicle to leave a planet's surface or to maintain artificial gravity for passengers on interplanetary trips. (See: GRAVITY BELT; LEVITATOR)

HYDROPONICS—The science of growing plants in chemically enriched water. Used in SF for space-saving food sources on space ships, planetary outposts, etc.

IMMORTALITY—A popular SF theme. Illogical and accidental causes of longevity are usually avoided. The two most common SF ideas: life, assumed as electrical in origin, can be "recharged"; life, basically chemical, can be rejuvenated with chemicals. Different means of achieving longevity are advanced in: *The Immortals* by Ralph Milne Farley, *The Elixir of Hate* by George Allan England, and *The Master Mind of Mars* by Edgar Rice Burroughs.

INTERGALACTIC—Literally "between galaxies," or star islands. (See: SPACE TRAVEL)

INTERPLANETARY—Literally "between planets." Usually applied to space travel in our own solar system. (See: SPACE TRAVEL)

INTERSTELLAR—Literally "between stars." (See: SPACE TRAVEL)

LEVITATOR—Used in the standard sense of any person or thing which counteracts gravity. An interesting example is illustrated in *The Planet of Peril* by Otis Adelbert Kline (Chicago 1929). In more common SF usage is the "levitator beam," usually pure force emitted by a "projector" as either weapon or tool. (See: GRAVITY PLATES; WEAPONS)

LIGHT YEAR—In science, the distance light travels in one year at 186,000 miles per second. In SF, used to measure distances and speeds of space vehicles. (See: PARSEC)

LORENTZ-FITZGERALD CONTRACTION—In science, the theory that a moving body contracts in length along its line of motion, ultimately reaching zero length at the speed of light. Thus, in physical terms, a three dimensional body contracts to two dimensions. An extension of this theory assumes Time itself is changed by a similar ratio. This would mean, in common terms, an interstellar vehicle at the speed of light would shrink to two dimensions while star-determined Time would accelerate. The traveler, however, with his own senses also altered, would not notice any change. On this basis, SF depicts interstellar flight at light speeds as a one-way voyage into Time as well as space. This time travel angle of space travel has been used in SF for several years. (See: DOPPLER EFFECT; LIGHT YEAR)

LUNA—Earth's moon. As our closest space-neighbor, Luna is a popular SF locale, *e.g.*, *The Moon Maid* by Edgar Rice Burroughs (Chicago 1926) and *Maza of the Moon* by Otis Adelbert Kline (Chicago 1930), but its airless, "dead" condition usually calls for placing its life forms within an innerworld or caverns.

MATTER TRANSMITTER—In SF, an apparatus which dissembles an object, transmits it through space and re-assembles it at another point. The transported matter is usually broken into its component atoms, keyed, "beamed" and reconstructed by a specially keyed receiver. Travel is thus instantaneous. Examples are in *The World of Ā* by A. E. van Vogt (N.Y. 1948) and *The Last Space Ship* by Murray Leinster (N.Y. 1949). (See: TELEPORTATION)

MARTIAN—An inhabitant of Mars. The forms identifying the various inhabitants of alien worlds usually vary with the whims of SF authors, but they are generally based on Roman or Greek origins, *e.g.*, Venusian, Venerian; Jupiterian, Jovian; Lunite, Lunerite, Selenite; Mercurian; Saturnian; etc. Even fictional planet names are so formed, *e.g.*, Xanthos, Xanthians, etc.

METEOR—Also Meteorite, Meteoroid. A stone or metallic body, commonly called "shooting star" when falling through Earth's air. The destruction of Earth by alien matter from space is a constant SF threat, *e.g.*, *The Poison Belt* by Sir A. Conan Doyle (London 1913), *Planetoid 127* by Edgar Wallace (London 1929), *The Big Eye* by Max Ehrlich (N.Y. 1949), etc. An intriguing theory incorporating unrelated meteorological and asteroidal facts is contained in Otis Adelbert Kline's *Maza of the Moon* (Chicago 1930). (See: WORLD CATASTROPHE)

NOVA—In astronomy, a star that suddenly flares into life, usually to die again. Often considered in SF as our own sun's fate. (See: WORLD CATASTROPHE)

NUCLEAR PHYSICS—The science of the atom. Amazingly accurate SF forecasts of uses of atomic energy (See: FUTURE WAR) are found very early; in *A Columbus of Space* by Garrett P. Serviss (N.Y. 1911) radium, a product of uranium, is described as fissionable material used to drive an interplanetary vehicle to Venus. In recent years, the dangers of hard radiation have evoked countless stories (See: BIOLOGY). One of the earliest references to hard radiation resulting from atom bombs is in *Gay Hunter* by J. Leslie Mitchell (N.Y. 1934). (See: BIOLOGY; FUTURE WAR)

ORBIT—The path of any physical body through space, such as the planets around the sun. The eccentric movement of comets and other wanderers, including drifting space ships, can be described as eccentric orbits.

PARSEC—An astronomical unit of measurement for stellar distances, equivalent to almost 19 trillion miles, equal to 3.26 light years. (See: LIGHT YEAR)

PERIPHERY—In SF, the farthest point reached by a space traveler. Also man's frontier in the universe.

PLANET—Used to designate any world, including asteroids and excluding suns or stars. (See: TERRA)

PLATINUM-IRIDIUM SPONGE—In SF, a manufactured metallic substance considered suitable for electronic memory brains (See: CYBERNETICS) used in thinking robots (See: ANDROID). The basis for Isaac Asimov's *I, Robot* (Gnome Press, N.Y. 1950), which introduces a "positronic brain."

POSITRONIC BRAIN—(See: PLATINUM-IRIDIUM SPONGE)

PREHISTORIC—In SF, bygone days are reconstructed from scientific theories and facts. John Taine's pre-human *Before the Dawn* (Baltimore 1934) is perhaps the most remarkable SF *tour de force*. Subhuman races have been treated in *The Day of the Brown Horde* by Richard Tooker (N.Y. 1929), *The Wonder Stick* by Stanton A. Coblentz (N.Y. 1929), *Warrior of the Dawn* by Howard Browne (Chicago 1943), etc. Perhaps the most elaborate and well-known prehistoric conception is the "Hyborean Age" of Robert E. Howard in *Skullface and Others* (Sauk City, Wisc. 1946) and *Conan the Conqueror* (Gnome Press, N.Y. 1950). (See: TIME TRAVEL)

ROBOT—A mechanism contrived to do human or superhuman tasks. (See: ANDROID) An early example of robots replacing human life was presented in Karel Capek's play, *R.U.R.* (*Rossum's Universal Robots*) (N.Y. 1923).

SEETEE—Also Contraterrene, CT. In SF, an inverted type of matter, foreign to Earth. Seetee atoms are inside out electrically, with negative nuclei and positive electrons. (See: ATOM) The hypothetical union of these atoms with ordinary atoms is pictured as infinitely more explosive than nuclear fission. This subject is dealt with by Will Stewart in his *Seetee Ship* (Gnome Press, N.Y. 1951) and *Seetee Shock* (N.Y. 1949).

SOLAR SYSTEM—A sun and its planets, held together by solar attraction. Usually it refers to our own system of which Earth is a part. (See: INTERPLANETARY; TERRA)

SPACE DRIVE—In SF, a term to denote space ship propulsion. The popular types include liquid fuels (rockets), nuclear fission, and utilization of force-fields and space-warps. (See: FORCE-FIELD; NUCLEAR PHYSICS; SPACE-WARP)

SPACE—In SF, generally applied to the universal void which lies beyond the atmospheres of the worlds of the universe. (See: VOID)

SPACE LOCK—In SF, an opening into a space ship, complete with air lock to avoid loss of atmosphere or penetration by alien air. Also refers to a space ship's berth or launching platform. (See: SPACE PORT)

SPACEMEN—In SF, generally applied to those men who work in space or on space ships. Usually excludes passengers or travelers on space ships.

SPACE OPERA—Used to label a "blood and thunder" SF interplanetary story or "Western of the space lanes," not necessarily a derogatory term.

SPACEOPHONE—In SF, a short range radio transmitter-receiver used for space ship crew communication, especially when "outside" in space suits. (See: VISI-PLATE)

SPACE PORT—Used in SF for several designations: as a window or observation port in a space ship, as a synonym for "space lock," as a city or building used as a port for space craft, and as the actual dock, berth or landing platform for a space ship. (See: SPACE LOCK; SPACE TERMINAL)

SPACE SHIP—A vehicle designed for interplanetary or interstellar travel. The most common type is the rocket ship, propelled by the thrust of various engines, ranging from powdered and liquid fuels to atomic energy. For a survey of types, note: *From the Earth to the Moon* by Jules Verne (N.Y. 1874), in which a giant bullet forms the vehicle when fired from an enormous gun; *The First Men in the Moon* by H. G. Wells (London 1901), in which "Cavorite" is employed as an anti-gravity device and the vehicle "floats" into space free from gravitational pull; *By Rocket to the Moon* by Otto Willi Gail (N.Y. 1931), an early "realistic" approach utilizing liquid fuels; *A Columbus of Space* by Garrett P. Serviss (N.Y. 1911), in which atomic energy is used. (See: SPACE TRAVEL)

SPACE SUIT—Apparel designed for use by spacemen when in space or alien atmospheres. Variants range from rubberoid suits, similar to deep sea diving suits, to metaloid garments capable of withstanding tremendous atmospheric pressures on giant worlds. (See: SPACE TRAVEL)

SPACE TERMINAL—Also Space Port, Space Station. Terminals imply hugeness, but are not necessarily so, *e.g.*, a space platform anchored by gravity in an orbit between Earth and Luna. A space station operated for transmittal of interplanetary radio messages was the locale of George O. Smith's *Venus Equilateral* (Phila. 1947). (See: SPACE PORT)

SPACE TRAVEL—The SF conception of space travel development has followed a generally accepted pattern. The hypothetical, chronological outline of the conquest of space, with few exceptions, is:

1. Initial space travel attempts between Earth and Luna.

2. With bases on the moon to utilize reduced gravity and atmospheric fiction, the next objective will be to the near planets and thence outward in the solar system. This is termed "interplanetary" travel. Any planetary coalition of governments would be a "Solar" union.

3. The next step is beyond our solar system, into our galaxy or "island of stars." This is termed "interstellar" travel. Many "space operas" in SF are concerned with the troubles of this galaxial conquest.

4. The final step is onward to other galaxies—"intergalactic" travel. Inasmuch as this perhaps represents the ultimate, although other universes are often considered, the SF background of intergalactic stories is usually extremely advanced, with all sorts of new sciences and machines accepted as commonplace.

There are many examples of each stage of space travel in books. Some are: Stage 1: *The First Men in the Moon* by H. G. Wells (London 1901). Stage 2: *A Columbus of Space* by Garrett P. Serviss (N.Y. 1911) and *The Horror on the Asteroid* by Edmond Hamilton (London 1936). Stage 3: *The Voyage of the Space Ship Beagle* by A. E. van Vogt (N.Y. 1950) and *Foundation* by Isaac Asimov (Gnome Press, N.Y. 1951). Stage 4: *The Star Kings* by Edmond Hamilton (N.Y. 1949). Stage 5: (Hinting at other universes) *Cosmic Engineers* by Clifford D. Simak (Gnome Press, N.Y. 1950). The most definitive book outlining the entire future history of space travel is an anthology, *Men Against the Stars* edited by Martin Greenberg (Gnome Press, N.Y. 1950), following this general outline. An exceptional non-fiction book is *The Conquest of Space*, text by Willy Ley, paintings by Chesley Bonestell (N.Y. 1950).

With space travel there naturally follows exploration. There are roughly two types represented here: the action-adventure, *e.g.*, Edgar Rice Burroughs' Martian novels and Otis Adelbert Kline's Venerian novels; and the science-adventure, *e.g.*, Dr. E. E. Smith's intergalactic "Skylark" epics and John W. Cambell, Jr.'s *Mightiest Machine* (Providence, R.I. 1947) and *Incredible Planet* (Reading, Pa. 1950). (See: INTERPLANETARY; SOLAR SYSTEM; SPACE SHIP)

SPACE-WARP—An SF theory of space divided into strata or vectors. With such overlapping divisions artificial fields of force in opposition are created. By draining the energy of one while in the other, a vehicle might theoretically achieve stupendous propulsion, and by shifting from one field to another gigantic leap-frog maneuvering might be feasible, thus exceeding the speed of light by reducing the normal light distances. Details of space-warps in free flight are dealt with by Dr. E. E. Smith in his "Skylark" series. (See: FORCE-FIELD)

SUPERMEN—In SF, predicated on the assumption that some day *Homo sapiens* must give way to a superior species. References to Supermen are made in many ways by individual writers, *e.g.*, *Homo intelligens, Homo superior, Homo anthropus, Homo caninus, etc.* Changes have been attributed to: harmful atomic radiation, *e.g.*, *Slan* by A. E. van Vogt (Sauk City, Wisc. 1946); radiological research, *e.g.*, *Seeds of Life* by John Taine (Reading, Pa. 1950); accidental or deliberate mutation of present day animals, *e.g.*, *Sirius* by Olaf Stapledon (London 1944); natural evolution, *e.g.*, *The Time Machine* by H. G. Wells (N.Y. 1895) and *The World Below* by S. Fowler Wright (London 1930). Other writers, going further, have visualized mankind replaced by alien life forms carried to Earth in cosmic dust or through actual physical conquest. (See: BIOLOGY; CHANGELING; E.S.P.; E.T.P.)

TELEPORTATION—Also Telekinesis. An unusual SF theory based on the assumption that some form of mental levitation is possible to transport objects. Employed strikingly by Otis Adelbert Kline in his Venerian books, *e.g.*, *The Planet of Peril* (Chicago 1929), etc. (See: MATTER TRANSMITTER)

TERRA—Also Earth. Our own world among worlds. The derivative "Terrestrial" is an adjective. Terrestrial also stands for Earthman or Earthling. (See: PLANET; SOLAR SYSTEM)

TIME MACHINE—In SF, the mechanism used to transport any person or thing into the past or future. H. G. Wells' *The Time Machine* (N.Y. 1895) provided both the name and plot basis for most time travel vehicles. (See: TIME TRAVEL)

TIME TRAVEL—In SF, the transportation of any person or thing into the past or future. An extremely popular SF theme, filled with paradoxes. The methods of travel involve everything from machines and chemicals to incantations. A unique study of various time theories in SF form is offered in *The Omnibus of Time* by Ralph Milne Farley (Los Angeles 1950). Examples of time travel stories are collected in *Travelers in Time* edited by Philip van Doren Stern (N.Y. 1947). *Portrait of Jennie* by Robert Nathan (N.Y. 1940) is a poetic time travel story without explanations—yet explainable by "overlapping time phases." (See: DIMENSIONS; DOPPLER EFFECT; LORENTZ-FITZGERALD CONTRACTION; PREHISTORIC; TIME MACHINE)

TRAJECTORY—The curve described by an object in space under the action of certain forces, such as a comet or a power-driven space ship. Thus the plotted trajectory of a space ship is its mapped course.

UNEXPLORED LAND—In SF, there are still hidden areas on Earth. Once embracing large continental areas, *e.g.*, *The Lost World* by Sir A. Conan Doyle (N.Y. 1912), they are now limited by aerial surveys to obscure islands, *e.g.*, *King Kong* by Edgar Wallace (Lovelace) (N.Y. 1933), or the Himalayas, *e.g.*, *Lost Horizon* by James Hilton (N.Y. 1933) and the works of John Taine. An early SF theme in America concerned an innerworld, with Earth's surface only the crust enclosing it. *Symzonia* by Adam Seaborn advanced theories in 1820 which still are not entirely refuted. Edgar Rice Burroughs' "Pellucidar" novels expanded this idea.

VIBRATOR—In SF, usually a weapon of the sonic type. (See: BLASTER; WEAPONS)

VISI-PLATE—Also Visi-screen. Usually an SF type of television replacing ports or windows in space ships. Also used for communication. (See: SPACEPHONE)

VOID—Also Space, Cosmos. In SF, used to delineate the matterless areas between worlds, generally synonymous with space and cosmos. In some SF, used arbitrarily to designate the gulf between galaxies. (See: SPACE)

WEAPONS—In SF, a subject as wildly misused as "B.E.M.s." There has always been a prevalence of unexplained "rays," usually of deadly purpose and garish coloration. Of the more logical weapons, the "blaster" is the most common hand gun, usually interpretations of sound scientific theories. (See: BLASTER; DISINTEGRATOR; VIBRATOR) Space ships are often armed with various repulsing and attracting devices, usually called "tractors" and "repellors." Dr. E. E. Smith's

"Skylark" novels contain many weapons with plausible and ingenious explanations. (See: FORCE-FIELD; FUTURE WAR)

WORLD CATASTROPHE—Mankind has always worried about its possible extinction and SF has taken up the possibilities, as well as adding to them. An early title (1914), still one of the best, is George Allan England's *Darkness and Dawn.* Almost every conceivable end has been pictured for Earth: planetary collision in *When Worlds Collide* by Philip Wylie and Edwin Balmer (N.Y. 1932) and *The Hopkins Manuscript* by R. C. Sheriff (N.Y. 1939) (See: METEOR); a poisonous cosmic cloud in *The Purple Cloud* by M. P. Shiel (London 1929); a watery nebula in *Deluge* by S. Fowler Wright (N.Y. 1928) (See: COMET); electrical phenomenon in *A World in Spell* by D. E. Stevenson (N.Y. 1939); and many others (See: NOVA; SUPERMEN).

SAMUEL A. PEEPLES
DAVID A. KYLE
MARTIN GREENBERG

The Interstellar Zoo

BY DAVID KYLE

"BUT MOTHER," said Mrs. Murray's nine-year-old son, "won't the creatures be embarrassed by our visit?"

"Yes, Mummy," daughter Harriet stuttered excitedly, "won't the creatures—feel funny—if we stare at them?" She was only three-and-a-half.

The three of them were standing on the broad escalator moving slowly upward into the dark, cool mouth of the syntho-marble building. Behind them lay the luxuriant botanical gardens, dancing in the heavy sunlight, and to Mrs. Murray the deep shadows within the Zoological Building offered sweet relief. She was a city girl, used to air-conditioning and artificial light.

Mrs. Murray started to say, "Don't—," remembered her *Psych Three* course, and said, instead, careful not to be patronizing, "Call them 'beings'—'alien beings'—not 'creatures.' " She squeezed each of their hands in turn, smiling at the pleasant thought of the cool air which would shortly brush her damp cheek. "And they won't be embarrassed, Don. All the beings are behind one-way glass. We can see into their homes, but they can't see us."

They reached the broad stone veranda and walked toward the huge glass doors. As they entered—and the cool air brushed Mrs. Murray's cheek and drove the warm, sticky air from the folds of her diaphanous nylon tunic—they noticed the bronze plaque with its embossed letters:

WELCOME TO
THE INTERSTELLAR ZOO

Below it in smaller letters was:

Help Yourself

Under that sign were neat stacks of booklets. Mrs. Murray gave one to each of her children and took one for herself. As they moved into the huge hall to their right, she began reading the introduction

aloud. Don read his own book silently with her, but Harriet, too excited to concentrate, peered timidly at the far wall. Through the translucent barrier were swirling, subdued lights and ghostly forms.

" 'Picture Number One,' " Mrs. Murray read, " 'shows a Venusian.' " (Page 33) " 'In the cloudy atmosphere of Venus, this 50-foot being constantly floats above the semi-liquid surface of the planet. All its sense organs, including its brain, hang beneath its balloon body. The long, sensitive tentacles are remarkably dextrous—' "

"Excuse me, Mother," said Don, "but it's not necessary to read it aloud. I know all these simple facts."

"Let's not forget Harriet," his mother replied patiently. "She's still a little girl and can't read very well."

"That's all right. I'll explain things to her."

Don took his sister by one hand and rubbed her frizzly blonde hair with his other.

"They have to live inside that big case, Sis, because the air is thick and specially mixed just like on Venus. And they can't stand direct sunlight so the walls are tinted—which is why they're so difficult to see. . . ."

Harriet dragged him on to the next section. The huge white figure inside was clearly seen. (Page 34)

"Big bean!" Marion exclaimed.

"—Being," Don corrected. "And it's big, all right. Probably thirty feet tall. The air is blue because its more like ammonia than anything else. He's galactic—not from our solar system. Look at its trunk—it uses it like a hand."

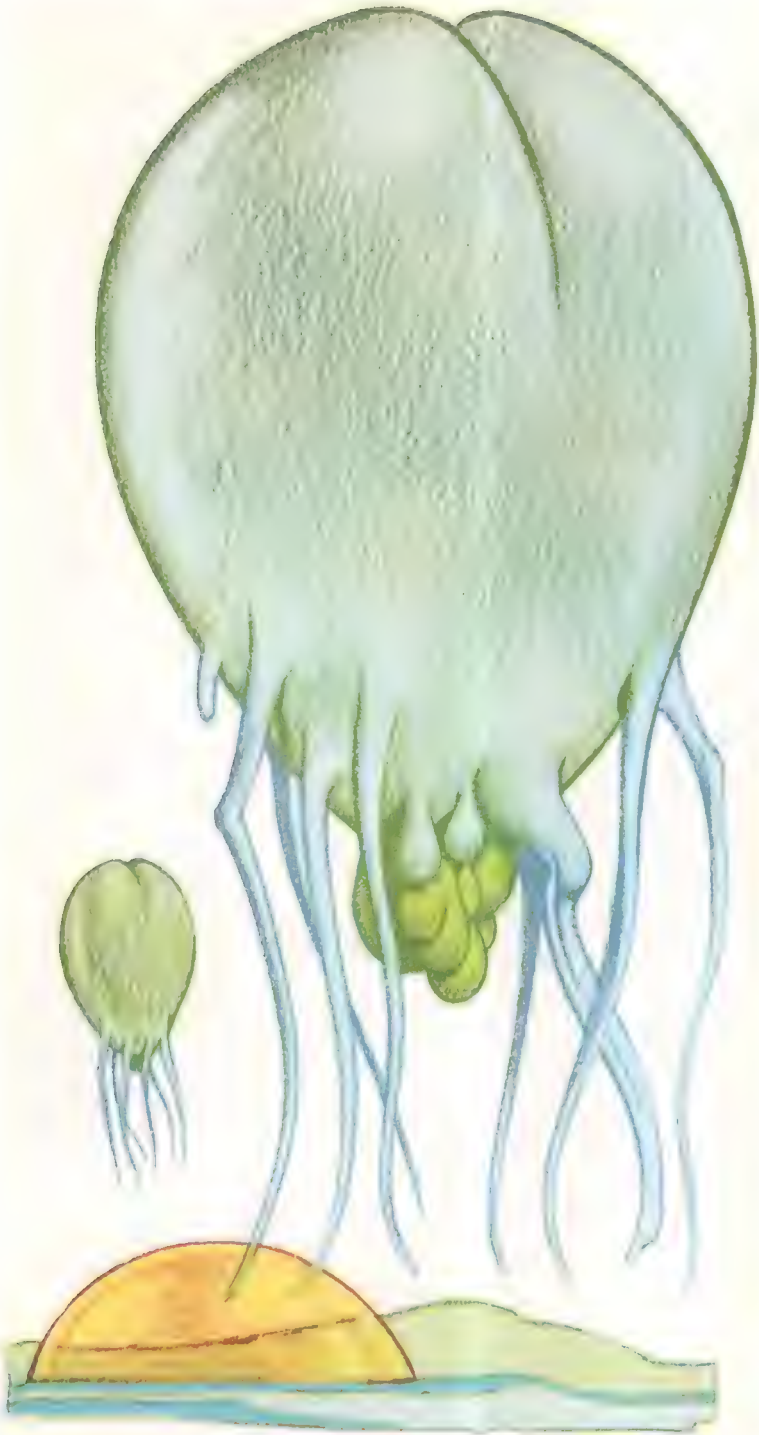
"Like an elephant," Mrs. Murray added helpfully.

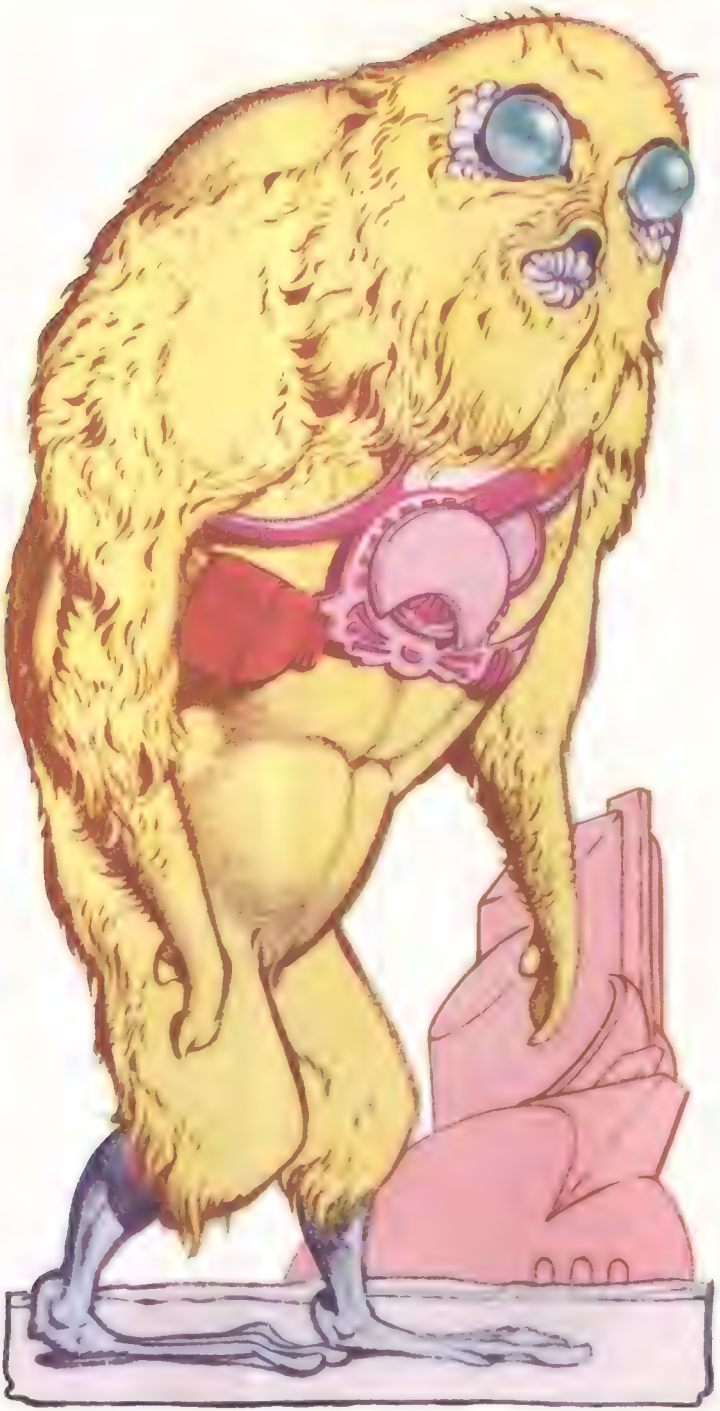
"That's not a good comparison," Don said, rather stiffly. "Much more like a hand. You'll note that every intelligent being has some sort of hand, or at least a hand substitute. It's a mark of intelligence —any such being almost invariably has to have a mechanical means for manipulating its environment."

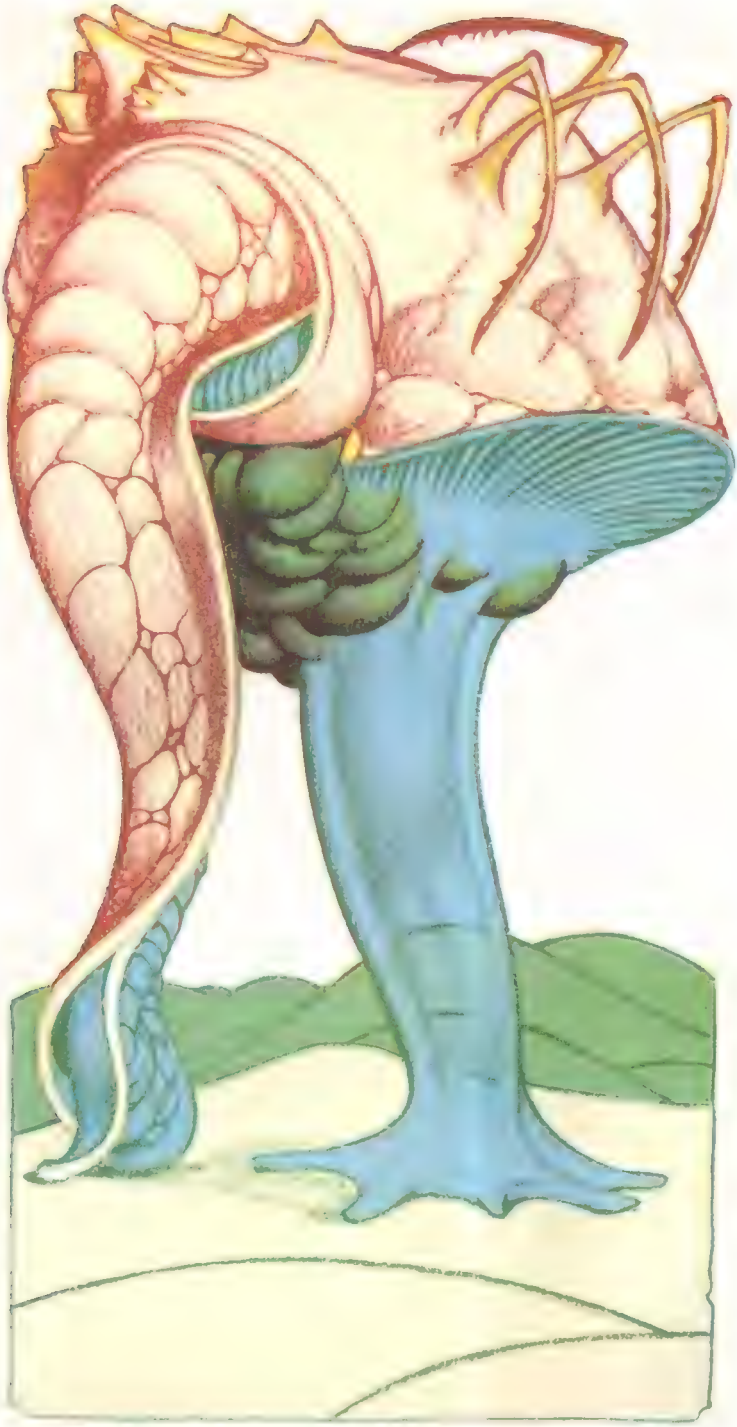
"Don't be too technical," Mrs. Murray cautioned, forgetting to eliminate "Don't" as the principal word in her sentence.

"I understand," Harriet said, looking at her own hand and wiggling her fingers. "I think—" she suddenly added, doubtfully.

"Now, take this baby—I mean, this being," Don said, conscious of his mother's wince at the use of his slang. He pointed to the next wall. The two-legged thing was half the size of the white one, but it was still mammoth. (Page 35) "You can see it has nothing like a hand. So it's no wonder it's not very bright. It's from Jupiter . . ." As though puzzled by his own statement, he checked his guide book. ". . . and Jupiter's got tremendous gravity and a messy atmos-







phere . . ." He looked up triumphantly. "It's only stuffed. It'd be almost impossible to keep one alive here on Earth so they brought back one that'd died. The others didn't object because they're of such a low order of intelligence."

"I thought all the exhibits in this building are alive," his mother said with curiosity.

"There are two exceptions," Don said knowingly. "This one the zoo made because it represented the only alive, semi-intelligent being in our solar system—that we know of, that is—that otherwise wouldn't have been represented here."

"And the other?" his mother asked.

"We'll come to him," Don said mysteriously.

Harriet had urged them on to the next exhibit. The case was almost pitch black. (Page 36)

"This fellow's from Saturn." Don moved close to the glass wall. The thing was stalking around at the far side. "He must be fifteen feet tall, but those long legs are stronger than molybdenum-steel to support his weight. He's pretty dumb, though, even if he's got a bigger brain than anybody."

Harriet gave a little cry of recognition. She was in front of the next case, her round face pressed tightly against the glass surface. "A Martian!" she giggled. (Page 37)

Mrs. Murray wasn't interested. Martians were one of the very few alien beings who could walk Terrestrial streets without complicated clothing or apparatus. One, 10-foot tall and dark green, had even visited her home before Harriet had been born. He had had to wear an oxygen trap over his hard-shelled mouth—without it he would have quickly become "drunk as a coot," as her husband had reported from first-hand observation, on the oxygen-rich air of Earth—and he had to take body temperature reducing tablets frequently. But his intelligence had been great—yes, she remembered, remarkable—though somehow kind of worn out.

This time Donald had moved on to the next case first.

"From Callisto," he said simply. (Page 38)

Harriet looked at the nine-foot figure with respect. "I like him," she said.

Mrs. Murray liked him, too. She knew this native of one of Jupiter's moons was in many ways smarter than Earthmen and had often seen them on TV programs, sparkling with wit. They were strikingly handsome. She suddenly hoped her husband would invite one to their home the next time he docked at Spaceport.

Donald moved reluctantly on, firmly hauling a none-too-willing Harriet after him.

The being they now observed was a six-foot high, gaudy confusion of hair, legs, tentacles and beak. Only his big red eye seemed to make sense. (Page 39)

"He's extra-galactic." Noticing his sister's puzzled look, he added, "He's from beyond our own galaxy, our own group of stars." He shielded his eyes against the dazzling colors. "The fellow's camouflaged naturally to blend in with his own world. He isn't as stupid as he looks."

"Is there a special order to this exhibit?" Mrs. Murray asked her son, suddenly suspecting the fact.

"Yup, Mom," Don said. "The zoo's graded by size. We're progressing from the biggest to the smallest."

"I don't see a Big Bumble," Harriet said, absorbing Don's announcement. "Why don't we see a Big Bumble?"

"Because a Big Bumble's a big stupid animal and this is the high level of intelligence section. We can see a Big Bumble in the low level section in another building."

"Oh," said Mrs. Murray, interested. "Then we'll see only one representative type from each world?"

"We won't even see that much, Mother," Don replied. "We'll only see high level intelligence, comparable to man. And only those who now exist—no dead races. There are many forms which are impossible to exhibit, for one reason or another, which we won't see, of course. And it just happens there are single exhibits from each world—life seems to work out with only one dominant, really intelligent race from each place. Except for rare occasions."

Harriet had skipped the lecture for the next case.

This time it was Mrs. Murray who exclaimed, "My! What pretty colors!" This was an addition since her last visit. It was like an iridescent worm. (Page 40)

"From Titan," Don said. "One of Saturn's moons. But take a look at the next one—he has a sack of gas on his back and the colors keep changing in spots all over its surface."

They passed to the exhibit to which Don referred. (Page 41)

"He comes from the double star 61 Cygni and has a civilization which is superior, in its way, to our own. It lives in a kind of ammonia atmosphere and likes to sit in one place for years. That's why they need no zoo of their own."

"You mean . . . ?" Mrs. Murray exclaimed, with sudden realization. She had forgotten.

"Why, of course," said Don with a brief nod. "Wherever possible we have a human being in one of their zoos. They're all volunteers for a period of time. All these creatures in this zoo on Earth are

volunteers. They don't do much, just philosophize, sort of, except they give consultations on specific problems to our own specialists."

Harriet was amused. "People in zoos? I wish bad Mr. Diquilson was in a zoo." Mr. Diquilson was Harriet's Infant Punishment Officer.

"But getting back to our own system again," Dick said, "the next fellow is from the closest planet to the sun, Mercury." (Page 42)

"Betcha he's awful hot," said Harriet, worried.

"Yes and no," Don answered. "Mercury always faces one side to Ole Sol, so there it's tremendously hot and on the other side it's tremendously cold. But running around the border of the two sides is a narrow strip where this little guy lives—he's only three or four feet high. He's an oddity in our system because his chemistry is based on a silicon cycle, not carbon like ours. He builds up big flakes on his brain pan which drop off, kind of like our breathing out carbon dioxide." They watched the being pop his eyes in and out of his head. "Yes sir, he's a real oddity. He lives in tunnels he digs with his powerful hands. Everybody thinks he must have come from another system. He's pretty brainy, but he just doesn't seem to care about the Solar Union or progress."

"*He* cares, though," Mrs. Murray said, indicating the next room. They had turned a passage and stood before a model of a powder blue skyscraper. Behind the model was the glass case containing its creative builder, the crystalline-like native of Io, another moon of Jupiter. (Page 43)

"Yes," Don agreed. "Io and Callisto have exceptionally talented inhabitants—they practically formed the Solar Union themselves. But the smartest of them all is that fellow over there." Don turned around and pointed beyond another skyscraper model, this one with delicate curves in gray metal. Behind the glass wall was a two-foot high blue mass. (Page 44)

"That's the real brains of the Solar Union and the Galactic Union, too."

"He's upside down," said Harriet.

"No," Don said. "It looks like he's standing on his head, but he's not. His head is that bulb at the top. And he's got a name—he's the only one here most everybody can name—Tsu-Tse. You see," Don nodded sagely, "he's the other one that's stuffed in here."

"Ah," said Mrs. Murray, her memory stirred, "he's the famous scientist and statesman who donated his body to this museum."

"Right, Mother," Don agreed. "You see he's from the neighborhood of Luyten 789-6 on the other side of the galaxy on a giant planet of tremendous gravity with a methane atmosphere. So it was impos-

sible for his race to be represented here alive. But because he wanted to spread understanding and tolerance, he donated his body for exhibition after his death."

They stood a moment in respect before considering the next subject. (Page 45)

"He's from Tau Ceti, practically next door to Luyten. I shouldn't say 'he,' because his race has twenty-eight sexes. You see—" But Mrs. Murray interrupted her son: "Not now, Don." She glanced at Harriet. "It'll be all right to go into that next year."

Don smiled and turned a corner of the corridor. There were two very small windows in the wall.

"That," Don said, indicating the nearest, "contains a six-inch high being who claims his entire race lives in space ships scattered around the galaxy, with their home planet long since vanished. (Page 46)

"And that," indicating the other window, "is an inch-high fellow suspected of being more plant than animal. All the way from one of the Messier galaxies. (Page 47)

"But *here*," he said dramatically, pointing to a metal case in the center of the floor, "is the smallest intelligent being known. You've got to peer at him through the eyepiece of that microscope at the top." (Page 48)

After his mother had finished her inspection, he lifted his sister so she could see too.

"With such a small being as he," Mrs. Murray said, "perhaps there are many more such races which we terrestrials haven't yet noticed."

Don finally lowered Harriet back to the floor. The girl grasped her mother's hand firmly as they started toward the exit.

"I know what I want to be when I grow up, Momma," she said.

"What, dear?"

"In a zoo. In a zoo on another world!"

Don laughed, but Mrs. Murray didn't—the idea intrigued her woman's vanity.

The Rocketeers Have Shaggy Ears

BY KEITH BENNETT

THE COMMANDER'S VOICE went droning on, but Hague's fatigued brain registered it as mere sound with no words or meaning. He'd been dazed since the crash. Like a cracked phonograph, his brain kept playing back the ripping roar of jet chambers blowing out with a sickening lurch that had thrown every man in the control room to the floor. The lights had flickered out, and a sickening elevator glide began as Patrol Rocket One smashed down through the Venusian rainforest roof, and crashed in a clearing blasted by its own hurtling passage.

Hague blinked hard and tried to focus his brain on what hard-faced Commander Devlin was saying, something about the Base and Odysseus, the mother ship.

"We've five hundred miles before we'll be in their vicinity, and every yard of it we walk. Hunting parties will shoot food animals. All water is to be boiled and treated with ultra-violet by my section. The photographers will march with the science section, which will continue classifying and writing reports. No actual specimens will be taken. We can't afford the weight."

To Hague, the other five men seated around the little charting table appeared cool, confidently ready to march through five hundred, or a thousand miles of dark, unexplored, steaming Hell that is Venusian rainforest. Their faces tightset, icily calm, they nodded in turn as the Commander looked at each one of them; but Hague wondered if his own face wasn't betraying the fear lurking within him. Suddenly Commander Devlin grinned, and pulled a brandy bottle from his pocket, uncorking it as he spoke: "Well, Rocketeers, a short life and a merry one. I never did give a damn for riding in these tin cans." The tension broke, they were all smiling, and saying they'd walk into the base camp

with some kind of a Venusian female under each arm for the edification of Officers' Mess.

Leaden doubt of his own untried abilities and nerve lay icy in Hague's innards, and he left after one drink. The others streamed from the brightly lighted hatch a moment later. The Commander made a short speech to the entire party. Then Navigator Clark, a smiling, wiry little man, marched out of the clearing with his advance guard. Their voices muffled suddenly as they vanished down a forest corridor that lay gloomy between giant tree holes.

Commander Devlin slapped Hague cheerfully on the shoulder as he moved past; and the second section, spruce and trim in blue-black uniforms, with silver piping, followed him. Crewmen Didrickson and Davis followed with rifles and sagging bandoliers of explosive bullets crossing their chests; and then Arndt, the lean craggy geologist, his arm in a sling, and marching beside him was rotund, begoggled Gault, the botanist. The little whippet tank clattered by next with Technician Whittaker grinning down at Hague from the turret.

"It pains me somethin' awful to see you walkin' when I'm ridin'," Whittaker piped over the whippet's clanking growl.

Hague grinned back, then pinched his nose between two fingers in the ageless dumb show of disgust, pointed at the tank, and shook his head sadly. The two carts the whippet towed swayed by, and the rest of the column followed; Bachmann, the doctor and Sewell, his beefy crotchety assistant; the two photographers staggered past under high-piled equipment packs, and Hague wondered how long they would keep all of it. Lenkranz, Johnston, Harker, Szachek, Hirooka, Ellis—each carried a pack full of equipment. The rest filed by until finally Swenson, the big Swede technician, passed and the clearing was empty.

Hague turned to look over his own party. In his mind's eye bobbed the neatly typed "Equipment, march order, light field artillery" lists he'd memorized along with what seemed a thousand other neatly typed lists at Gunnery School.

The list faded, and Hague watched his five-man gun-section lounge against their rifles, leaning slightly forward to ease the heavy webbing that supported their marching packs and the sectioned pneumatic gun.

"All right," Hague said brusquely. He dredged his brain desperately then for an encouraging speech, something that would show the crew he liked them, something the Commander might say, but he couldn't think of anything that sounded witty or rang with stirring words. He finally muttered a disgusted curse at his own blankheadedness, and said harshly, "All right, let's go."

The six men filed silently out of the clearing battered in the forest by Patrol Rocket One, and into damp gloom between gargantuan trunks that rose smoothly out of sight into darkness. Behind them a little rat-like animal scurried into the deserted slot of blasted trees, its beady black eyes studying curiously the silver ship that lay smashed and half-buried in the forest floor.

Base Commander Chapman shuffled hopelessly through the thick sheaf of onion-skin papers, and sank back sighing. Ammunition reports, supply reports, medical reports, strength reports, reconnaissance reports, radio logs, radar logs, sonar logs, bulging dossiers of reports, files full of them, were there; and elsewhere in the ship efficient clerks were rapping out fresh, crisp battalions of new reports, neatly typed in triplicate on onion-skin paper.

He stared across his crowded desk at the quiet executive officer.

"Yes, Blake, it's a good picture of local conditions, but it isn't exploration. Until the Patrol Rocket gets in, we can send only this local stuff, and it just isn't enough."

Blake shrugged.

"It's all we've got. We can send parties out on foot from the base here, even if we do lose men, but the dope they'd get would still be on a localized area."

The Commander left his desk, and stared through a viewport at the plateau, and beyond that at the jungled belt fringing an endless expanse of rainforest lying sullenly quiet under the roof of racing grey clouds.

"The point is we've got to have more extensive material than this when we fire our robot-courier back to earth. This wonderful mountain of papers—what do they do, what do they tell? They describe beautifully the physical condition of this Base and its complement. They describe very well a ten mile area

around the Base—but beyond that area they tell nothing. It's wonderful as far as it goes, but it only goes ten miles, and that isn't enough."

Blake eyed the snowy pile of papers abstractedly. Then he jumped up nervously as another bundle shot into a receiving tray from the pneumatic message tube. He began pacing the floor.

"Well, what can we do? Suppose we send the stuff we have here, get it microfilmed and get it off—what then?"

The Commander swore bitterly, and turned to face his executive.

"What then?" he demanded savagely. "Are we going into that again? Why, the minute every other branch of the services realize that we haven't got any kind of thorough preliminary report on this section of Venus, they'll start pounding the war drums. The battleship admirals and the bayonet generals will get to work and stir up enough public opinion to have the United States Rocket Service absorbed by other branches—the old, old game of military politics."

Blake nodded jerkily. "Yes, I know. We'd get the leftovers after the battleships had been built, or new infantry regiments activated, or something else. Anyway we wouldn't get enough money to carry on rocket research for space explorations."

"Exactly," the Commander cut in harshly. "These rockets would be grounded on earth. The generals or admirals would swear that the international situation demanded that they be kept there as weapons of defense; and that would be the end of our work."

"We've got to send back a good, thorough report, something to prove that the Rocket Service can do the job, and that it is worth the doing. And, until the Patrol Rocket gets back, we can't do it."

"Okay, Commander," Blake called as he went through the steel passage opening onto the mother ship's upper corridor, "I'll be holding the Courier Rocket until we get word."

Seven hours later it lightened a little, and day had come. Hague and the Sergeant had pulled the early morning guard shift and began rolling the other four from their tiny individual tents.

Bormann staggered erect, yawned lustily, and swore that this was worse than spring maneuvers in Carolina.

"Shake it," Brian snarled savagely. "That whistle will blow in a minute."

When it did sound, they buckled each other into pack harness and swung off smartly, but groaning and muttering as the mud dragged at their heavy boots.

At midday, four hours later, there was no halt, and they marched steadily forward through steaming veils of oppressive heat, eating compressed ration as they walked. They splashed through a tiny creek that was solidly slimed, and hurried ahead when crawling things wriggled in the green mass. Perspiration ran in streams from each face filing past on the trail, soaked through pack harness and packs; and wiry Hurd began to complain that his pack straps had cut through his shoulders as far as his navel. They stopped for a five minute break at 1400, when Hurd stopped fussing with his back straps and signalled for silence, though the other five had been too wrapped in their own discomfort to be talking.

"Listen! Do you hear it, Lieutenant? Like a horn?" Hurd's wizened rat face knotted in concentration. "Way off, like."

Hague listened blankly a moment, attempted an expression he fondly hoped was at once intelligent and reassuring, then said, "I don't hear anything. You may have taken too much fever dope, and it's causing a ringing in your ears."

"Naw," with heavy disgust. "Listen! There it goes again!"

"I heard it." That was Sergeant Brian's voice, hard and incisive, and Hague wished he sounded like that, or that he would have heard the sound before his second in command. All of the six were hunched forward, listening raptly, when the Lieutenant stood up.

"Yes, Hurd. Now I hear it."

The whistle blew then, and they moved forward. Hague noticed the Sergeant had taken a post at the rear of the little file, and watched their back trail warily as they marched.

"What do you think it was, sir?" Bucci inquired in the piping voice that sounded strange coming from his deep chest.

"The Lord knows," Hague answered, and wondered how many times he'd be using that phrase in the days to come.

"Might have been some animal. They hadn't found any traces of intelligent life when we left the Base Camp."

But in the days that followed there was a new air of expectancy in the marchers, as if their suspicions had solidified into a waiting for attack. They'd been moving forward for several days.

Hague saw the pack before any of his men did, and thanked his guiding star that for once he had been a little more alert than his gun-section members.

The canvas carrier had been set neatly against one of the buttressing roots of a giant tree bole and, from the collecting bottles strapped in efficient rows outside, Hague deduced that it belonged to Bernstein, the entomologist. The gunnery officer halted and peered back into the gloom off the trail, called Bernstein's name; and when there was no reply moved cautiously into the hushed shadows with his carbine ready. He sensed that Sergeant Brian was catfooting behind him.

Then he saw the ghostly white bundle suspended six feet above the forest floor, and moved closer, calling Bernstein's name softly. The dim bundle vibrated gently, and Hague saw that it hung from a giant white lattice radiating wheel-like from the green gloom above. He raised his hand to touch the cocoon thing, noted it was shaped like a man well-wrapped in some woolly material; and on a sudden hunch pulled his belt knife and cut the fibers from what would be the head.

It was Bernstein suspended there, his snug, silken shroud bobbing gently in the dimness. His dark face was pallid in the gloom, sunken and flaccid of feature, as though the juices had been sucked from his corpse, leaving it a limp mummy.

The lattice's stick white strands vibrated—something moved across it overhead, and Hague flashed his lightpak up into the darkness. Crouched twenty feet above him, two giant legs delicately testing the strands of its lattice-like web, Hague saw the spider, its bulbous furred body fully four feet across, the monster's myriad eyes glittering fire-like in the glow of Hague's lightpak, as it gathered the great legs slightly in the manner of a tarantula ready to leap.

Brian's sharp yell broke Hague from his frozen trance. He threw himself down as Brian's rifle crashed, and the giant arach-

nid was bathed in a blue-white flash of explosive light, its body tumbling down across the web onto Hague where he lay in the mud. The officer's hoarse yells rang insanely while he pulled himself clear of the dead spider-beast, but he forced himself to quiet at the sound of the Sergeant's cool voice.

"All clear, Lieutenant. It's dead."

"Okay, Brian. I'll be all right now." Hague's voice shook, and he cursed the weakness of his fear, forcing himself to walk calmly without a glance over his shoulder until they were back on the trail. He led the other four gunners back to the spider and Bernstein's body, as a grim object lesson, warned them to leave the trail only in pairs. They returned their weary footslogging pace down the muddy creek marked by Clark's crew. When miles had sweated by at the same steady pace, Hague could still feel in the men's stiff silence their horror of the thing Brian had killed.

Hours, and then days, rolled past, drudging nightmares through which they plowed in mud and steamy heat, with punctually once every sixteen hours a breathtaking, pounding torrent of rain. Giant drops turned the air into an aqueous mixture that was almost unbreathable, and smashed against their faces until the skin was numb. When the rain stopped abruptly the heat came back and water vapor rose steaming from the mud they walked through; but always they walked, shoving one aching foot ahead of the other through sucking black glue. Sometimes Bormann's harmonica would wheedle reedy airs, and they would sing and talk for a time, but mostly they swung forward in silence, faces drawn with fatigue and pale in the forest half light. Hague looked down at his hands, swollen, bloody with insect bites, and painfully stiff; and wondered if he'd be able to bend them round his ration pan at the evening halt.

Hague was somnambulating at the rear of his little column, listening to an ardent account from Bormann of what his girl might expect when he saw her again. Bucci, slowing occasionally to ease the pneumatic gun's barrel assembly across his shoulder, chimed in with an ecstatic description of his little Wilma. The two had been married just before the Expedition blasted Venusward out of an Arizona desert. Crosse was at the front end, and his voice came back nasally.

"Hey, Lieutenant, there's somebody sitting beside the trail."

"Okay. Halt." The Lieutenant swore tiredly and trotted up to Crosse's side. "Where?"

"There. Against the big root."

Hague moved forward, carbine at ready, and knew without looking that Sergeant Brian was at his shoulder, cool and self-sufficient as always.

"Who's there?" the officer croaked.

"It's me, Bachmann."

Hague motioned his party forward, and they gathered in a small circle about the Doctor, seated calmly beside the trail, with his back against a root flange.

"What's the matter, Doc? Did you want to see us?"

"No. Sewell seems to think you're all healthy. Too bad the main party isn't as well off. Quite a bit of trouble with fever. And, Bernstein gone of course."

Hague nodded, and remembered he'd reported Bernstein's death to the Commander three nights before.

"How's the Commander?" he inquired.

The Doctor's cherubic face darkened. "Not good. He's not a young man, and this heat and walking are wrecking his heart. And he won't ride the tank."

"Well, let's go, Doc." It was Brian's voice, cutting like a knife into Hague's consciousness. The Doctor looked tired, and drawn.

"Go ahead, lads. I'm just going to sit here for a while." He looked up and smiled weakly at the astonished faces, but his eyes were bleakly determined.

"This is as far as I go. Snake bite. We've no anti-venom that seems to work. All they can do is to amputate, and we can't afford another sick man." He pulled a nylon wrapper from one leg that sprawled at an awkward angle beneath him. The bared flesh was black, swollen, and had a gangrenous smell. Young Crosse turned away, and Hague heard his retching.

"What did the Commander say?"

"He agreed this was best. I am going to die anyway."

"Will—will you be all right here? Don't you want us to wait with you?"

The Doctor's smile was weaker, and he mopped at the rivulets of perspiration streaking his mud-spattered face.

"No. I have an X-lethal dosage and a hypodermic. I'll be fine here. Sewell knows what to do." His round face contorted, "Now, for God's sake, get on, and let me take that tablet. The pain is driving me crazy."

Hague gave a curt order, and they got under way. A little further on the trail, he turned to wave at Doctor Bachmann, but the little man was already invisible in forest shadows.

The tenth day after the crash of Patrol Rocket One, unofficially known as the Ration Can, glimpses of skylight opened over the trail Clark's crew were marking; and Hague and his men found themselves suddenly in an opening where low, thick vines, and luxuriant, thick-leaved shrubs struggled viciously for life. Balistierri, the zoologist, slight wisp of a dark man always and almost a shadow now, stood wearily beside the trail waiting as they drew up. Their shade-blinded eyes picked out details in the open ground dimly. Hague groaned inwardly when he saw that this was a mere slit in the forest, and the great trees loomed again a hundred yards ahead. Balistierri seized Hague by the shoulder and pointed into the thick mat of green, smiling.

"Watch, all of you."

He blew a shrill blast on his whistle and waited, while Hague's gunners wondered and watched. There was a wild, silvery call, a threshing of wings, and two huge birds rose into the gold tinted air. They flapped up, locked their wings, and glided, soared, and wheeled over the earth-stained knot of men—two great white birds, with crests of fire-gold, plumage snowy save where it was dusted with rosy overtones. Their call was bell-like as they floated across the clearing in a golden haze of sunlight filtered through clouds.

"They're—they're like angels." It was Bormann, the tough young sentimentalist.

"You've named them, soldier," Balistierri grinned. "I've been trying for a name; and that's the best I've heard. Bormann's angels they'll be. In Latin, of course."

Unfolding vistas of eternal zoological glory left Bormann speechless and red-faced. Sergeant Brian broke in.

"I guess they would have made those horn sounds. Right, Lieutenant?" His voice, dry and a little patronizing, suggested that this was a poor waste of valuable marching time.

"I wouldn't know, Sergeant," Hague answered, trying to keep dislike out of his voice, but the momentary thrill was broken and, with Balistierri beside him, Gunnery Officer Hague struck out on the trail that had been blasted and hacked through the clearing's wanton extravagance of greedy plant life.

As they crossed the clearing, Bucci tripped and sprawled full length in the mud. When he tried to get up, the vine over which he'd stumbled clutched with a woody tendril that wound snake-like tightly about his ankle; and, white faced, the rest of the men chopped him free of the serpentine thing with belt knives, bandaged the thorn wounds in his leg, and went on.

The clearing had one more secret to divulge, however. A movement in the forest edge caught Brian's eye and he motioned to Hague, who followed him questioningly as the Sergeant led him off trail. Brian pointed silently and Hague saw Didrickson, Sergeant in charge of Supplies, seated in the lemon-colored sunlight at the forest edge, an open food pack between his knees, from which he snatched things and swallowed them voraciously, feeding like a wild dog.

"Didrickson! Sergeant Didrickson!" the Lieutenant yelled. "What are you doing?"

The supply man stared back, and Hague knew from the man's face what had happened. He crouched warily, eyes wild with panic and jaw hanging foolishly slack. This was Didrickson, the steady, efficient man who'd sat at the chart table the night they began this march. He had been the only man Devlin thought competent and nerveless enough to handle the food. This was the same Didrickson, and madder now than a March hare, Hague concluded grimly. The enlisted man snatched up the food pack, staring at them in wild fear, and began to run back down the trail, back the way they'd come.

"Come back, Didrickson. We've got to have that food, you fool!"

The madman laughed crazily at the sound of the officer's voice, glanced back for a moment, then spun and ran.

Sergeant Brian, as always, was ready. His rifle cracked, and the explosive missile blew the running man nearly in half. Sergeant Brian silently retrieved the food pack and brought it back to Hague.

"Do you want it here, Lieutenant, or shall I take it up to the main party?"

"We'll keep it here, Sergeant. Sewell can take it back tonight after our medical check." Hague's voice shook, and he wished savagely that he could have had the nerve to pass that swift death sentence. Didrickson's crime was dangerous to every member of the party, and the Sergeant had been right to shoot. But when the time came—when perhaps the Sergeant wasn't with him—would he, Hague, react swiftly and coolly as an officer should, he wondered despairingly?

"All right, lads, let's pull," he said, and the tight lipped gun crew filed again into the hushed, somber forest corridors.

II

Communications Technician Harker took a deep pull at his mug of steaming coffee, blinked his eyes hard at the swimming dials before him, and lit a cigarette. Odysseus warning center was never quiet, even now in the graveyard watch when all other lights were turned low through the great ship's hull. Here in the neat grey room, murmuring, softly clicking signal equipment was banked against every wall in a gleaming array of dials and meters, heavy power leads, black panels, and intricate sheafs of colored wire. The sonar kept up a sleepy drone, and radar scopes glowed fitfully with interference patterns, and the warning buzzer beeped softly as the radar echoed back to its receivers the rumor of strange planetary forces that radar hadn't been built to filter through. What made the interference, base technicians couldn't tell, but it practically paralyzed radio communication on all bands, and blanketed out even radar warnings.

The cigarette burned his finger tips, and Harker jerked awake and tried to concentrate on the letter he was writing home. It would be microfilmed, and go on the next courier rocket. A movement at the Warnings Room door, brought Harker's head up, and he saw Commander Chapman, lean and grey, standing there.

"Good evening, sir. Come on in. I've got coffee on." The Communications Technician took a pot from the glow heater at his elbow, and set out another cup.

The Commander smiled tiredly, pulled out a stubby metal stool, and sat across the low table from Harker, sipping the scalding coffee cautiously. He looked up after a moment.

"What's the good word, Harker? Picked up anything?"

Harker ran his fingers through his mop of black hair, and grimaced.

"Not a squeak, sir. No radio, no radar. Of course, the interference may be blanketing those. Creates a lot of false signals, too, on the radar screens. But we can't even pick 'em up with long-range sonar. That should get through. We're pretty sure they crashed, all right."

"How about our signals, Harker? Do you think we're getting through to them?"

Harker leaned back expansively, happy to expound his specialty.

"Well, we've been sending radio signals every hour on the hour, and radio voice messages every hour on the half hour. We're sending a continuous sonar beam for their direction-finder. That's about all we can do. As for their picking it up, assuming the rocket has crashed and been totally knocked out, they still have a radio in the whippet tank. It's a trans-receiver. And they have a portable sonar set, one of those little twenty-pound armored detection units. They'll use it as a direction finder."

Chapman swirled the coffee around in the bottom of his cup and stared thoughtfully into it.

"If they can get sonar, why can't we send them messages down the sonar beam? You know, flick it on and off in Morse code?"

"It won't work with a small detector like they have, sir. With our big set here, we could send them a message, but that outfit they have might burn out. It has a limited sealed motor supply that must break down an initial current resistance on the grids before the rectifiers can convert it to audible sound. With the set operating continuously, power drainage is small, but begin changing your signal beam and the power has to break down the grid resistance several hundred times for every short signal sent. It would burn out their set in a matter of hours.

"It works like a slide trombone, sort of. Run your slide way out, and you get a slowly vibrating column of air, and that is

heard as a low note, only on sonar it would be a short note. Run your slide way up, and the vibrations are progressively faster and higher in pitch. The sonar set, at peak, is vibrating so rapidly that it's almost static, and the power flow is actually continuous. But, starting and stopping the set continuously, the vibrators never have a chance to reach a normal peak, and the power flow is broken at each vibration in the receiver—and a few hours later your sonar receptor is a hunk of junk."

"All right, Harker. Your discussion is vague, but I get the general idea that my suggestion wasn't too hot. Well, have whoever is on duty call me if any signals come through." The Commander set down his cup, said goodnight, and moved off down the hushed corridor. Harker returned to his letter and a chewed stub of pencil, while he scowled in a fevered agony of composition. It was a letter to his girl, and it had to be good.

Night had begun to fall over the forest roof, and stole thickening down the muddy cathedral aisles of great trees, and Hague listened hopefully for the halt signal from the whippet tank, which should come soon. He was worried about Bucci who was laughing and talking volubly, and the officer decided he must have a touch of fever. The dark, muscular gunner kept talking about his young wife in what was almost a babble. Once he staggered and nearly fell, until Hurd took the pneumatic gun barrel assembly and carried it on his own shoulders. They were all listening expectantly for the tank's klaxon, when a brassy scream ripped the evening to echoing shreds and a flurry of shots broke out ahead.

The scream came again, metallic and shrill as a locomotive gone amok; yells, explosive-bullet reports, and the sound of hammering blows drifted back.

"Take over, Brian," Hague snapped. "Crosse, Hurd—let's go!"

The three men ran at a stagger through the dragging mud around a turn in the trail, and dropped the pneumatic gun swiftly into place, Hurd at firing position, Crosse on the charger, and Hague prone in the slime snapping an ammunition belt into the loader.

Two emergency flares someone had thrown lit the trail ahead in a garish photographic fantasy of bright, white light and ink-

black shadow, a scene out of Inferno. A cart lay on its side, men were running clear, the whippet tank lay squirming on its side, and above it towered the screaming thing. A lizard, or dinosaur, rearing up thirty feet, scaly grey, a man clutched in its two hand-like claws, while its armored tail smashed and smashed at the tank with pile-driver blows. Explosive bullets cracked around the thing's chest in blue white flares of light, but it continued to rip at the man twisting pygmy-like in its claws—white teeth glinting like sabers as its blindly malevolent screams went on.

"On target," Hurd's voice came strained and low.

"Charge on," from Crosse.

"Let her go!" Hague yelled, and fed APX cartridges as the gun coughed a burst of armor-piercing, explosive shells into the rearing beast. Hague saw the tank turret swing up as Whittaker tried to get his gun in action, but a slashing slap of the monster's tail spun it back brokenly. The cluster of pneumatic shells hit then and burst within that body, and the great grey-skinned trunk was hurled off the trail, the head slapping against a tree trunk on the other side as the reptile was halved.

"Good shooting, Crosse," Hague grunted. "Get back with Brian. Keep the gun ready. That thing might have a mate." He ran toward the main party, and into the glare of the two flares.

"Where's Devlin?"

Clark, the navigation officer, was standing with a small huddle of men near the smashed supply cart.

"Here, Hague," he called. His eyes were sunken, his face older in the days since Hague had seen him. "Devlin's dead, smashed between the cart and a tree trunk. We've lost two men, Commander Devlin and Ellis, the soils man. He's the one it was eating." He grimaced.

"That leaves twenty-three of us?" Hague inquired, and tried to sound casual.

"That's right. You'll continue to cover the rear. Those horn sounds you reported had Devlin worried about an attack from your direction. I'll be with the tank."

Sergeant Brian was stoically heating ration stew over the cook unit when Hague returned, while the crew sat in a close circle, alternately eying nervously the forest at their backs, and the savory steam that rose from Brian's mixture. There wasn't much

for each of them, but it was hot and highly nutritious, and after a cigarette and coffee they would feel comfort for a while.

Crosse, seated on the grey metal charger tube he'd carried all day, fingered the helmet in his lap, and looked inquiringly at the Lieutenant.

"Well, sir, anybody hurt? Was the tank smashed?"

Hague squatted in the circle, sniffed the stew with loud enthusiasm, and looked about the circle.

"Commander Devlin's dead, and Ellis. One supply cart smashed, but the tank'll be all right. The lizard charged the tank. Balistierri thinks it was the lizard's mating season, and he figured the tank was another male and he tried to fight it. Then he stayed—to—lunch and we got him. Lieutenant Clark is in command now."

The orange glow of Brian's cook unit painted queer shadows on the strained faces around him, and Hague tried to brighten them up.

"Will you favor us with one of your inimitable harmonica arrangements, Maestro Bormann?"

"I can't right now. I'm bandaging Helen's wing." He held out something in the palm of his hand, and the heater's glow glittered on liquid black eyes. "She's like a little bird, but without her feathers. See?" He placed the warm lump in Hague's hand. "For wings, she's just got skin, like a bat, except she's built like a bird."

"You ought to show this to Balistierri, and maybe he'll name this for you too."

Bormann's homely face creased into a grin. "I did, sir. At the noon halt when I found it. It's named after my girl. 'Bormann's Helen,' only in Latin. Helen's got a broken wing."

As they ate, they heard the horn note again. Bucci's black eyes were feverishly bright, his skin hot and dry, and the vine scratches on his leg badly inflamed; and when the rest began to sing he was quiet. The reedy song of Bormann's harmonica piped down the quiet forest passages, and echoed back from the great trees; and somewhere, as Hague dozed off in his little tent, he heard the horn note again, sandwiched into mouth organ melody.

Two days of slogging through the slimy green mud, and at a noon halt Sewell brought back word to be careful, that a man had failed to report at roll call that morning. The gun crew divided Bucci's equipment between them, and he limped in the middle of the file on crutches fashioned from ration cart wreckage. Crosse, who'd been glancing off continually, like a wizened, curious rat, flung up his arm in a silent signal to halt, and Hague moved in to investigate, the ever present Brian moving carefully and with jungle beast's silent poise just behind him. Crumpled like a sack of damp laundry, in the murk of two root buttresses, lay Romano, one of the two photographers. His Hasselbladt camera lay beneath his body crushing a small plant he must have been photographing.

From the back of Romano's neck protruded a gleaming nine-inch arrow shaft, a lovely thing of gleaming bronze-like metal, delicately thin of shaft and with fragile hammered bronze vanes. Brian moved up behind Hague, bent over the body and cut the arrow free.

They examined the thing, and when Brian spoke Hague was surprised that this time even the rock-steady Sergeant spoke in a hushed voice, the kind boys use when they walk by a graveyard at night and don't wish to attract unwelcome attention.

"Looks like it came from a blowgun, Lieutenant. See the plug at the back. It must be poisoned; it's not big enough to kill him otherwise."

Hague grunted assent, and the two moved back trailward.

"Brian, take over. Crosse, come on. We'll report this to Clark. Remember, from now on wear your body armor and go in pairs when you leave the trail. Get Bucci's plates on to him."

Bormann and Hurd set down their loads, and were buckling the weakly protesting Bucci into his chest and back plates, as Hague left them.

Commander Chapman stared at the circle of faces. His section commanders lounged about his tiny square office. "Well, then, what are their chances?"

Bjornson, executive for the technical section, stared at Chapman levelly.

"I can vouch for Devlin. He's not precisely a rule-book officer,

but that's why I recommended him for this expedition. He's at his best in an unusual situation, one where he has to depend on his own wits. He'll bring them through."

Artilleryman Branch spoke in turn. "I don't know about Hague. He's young, untried. Seemed a little unsure. He might grow panicky and be useless. I sent him because there was no one else, unless I went myself."

The Commander cleared his throat brusquely. "I know you wanted to go, Branch, but we can't send out our executive officers. Not yet, anyway. What about Clark? Could he take over Devlin's job?"

"Clark can handle it," Captain Rindell of the Science Section, was saying. "He likes to follow the rule book, but he's sturdy stuff. He'll bring them through if something happens to Devlin."

"Hmmmm—that leaves Hague as the one questionable link in their chain of command. Young man, untried. Of course, he's only the junior officer. There's no use stewing over this; but I'll tell you frankly, that if those men can't get their records through to us before we send the next courier rocket to earth, I think the U.S. Rocket Service is finished. This attempt will be chalked up as a failure. The project will be abandoned entirely, and we'll be ordered back to earth to serve as a fighter arm there."

Bjornson peered from the space-port window and looked out over the cinder-packed parade a hundred feet below. "What makes you so sure the Rocket Service is in immediate danger of being scrapped?"

"The last courier rocket contained a confidential memo from Secretary Dougherty. There is considerable war talk, and the other Service Arms are plunging for larger armaments. They want their appropriations of money and stock pile materials expanded at our expense. We've got to show that we are doing a good job, show the Government a concrete return in the form of adequate reports on the surface of Venus, and its soils and raw materials."

"What about the 'copters!" Rindell inquired. "They brought in some good stuff for the reports."

"Yes, but with a crew of only four men, they can't do enough."

Branch cut in dryly. "About all I can see is to look hopeful. The Rocket would have exhausted its fuel long ago. It's been over ten weeks since they left Base."

"Assuming they're marching overland, God forbid, they'll have only sonar and radio, right?" Bjornson was saying. "Why not keep our klaxon going? It's a pretty faint hope, but we'll have to try everything. My section is keeping the listeners manned continually, we've got a sonar beam out, radio messages every thirty minutes, and with the klaxon we're doing all we can. I doubt if anything living could approach within a twenty-five mile range without hearing that klaxon, or without us hearing them with the listeners."

"All right." Commander Chapman stared hopelessly at a fresh batch of reports burdening his desk. "Send out ground parties within the ten mile limit, but remember we can't afford to lose men. When the 'copters' are back in, send them both West." West meant merely in a direction west from Meridian O, as the mother rocket's landing place had been designated. "They can't do much searching over that rainforest, but it's a try. They might pick up a radio message."

Chapman returned grumpily to his reports, and the others filed out.

III

At night, on guard, Hague saw a thousand horrors peopling the Stygian forest murk; but when he flashed his lightpak into darkness there was nothing. He wondered how long he could stand the waiting, when he would crack as Supply Sergeant Didrickson had, and his comrades would blast him down with explosive bullets. He should be like Brian, hard and sure, and always doing the right thing, he decided. He'd come out of OCS Gunnery School, trained briefly in the newly-formed U.S. Rocket Service. Then the expedition to Venus—it was a fifty-fifty chance they said, and out of all the volunteers he'd been picked. And when the first expedition was ready to blast off from the Base Camp on Venus, he'd been picked again. Why, he cursed despairingly? Sure, he wanted to come, but how could his commanders have had faith in him, when he didn't know himself if he could continue to hold out.

Sounds on the trail sent his carbine automatically to ready, and he called a strained, "Halt."

"Okay, Hague. It's Clark and Arndt."

The wiry little navigation officer, and lean, scraggy Geologist Arndt, the latter's arm still in a sling, came into the glow of Hague's lightpak.

"Any more horns or arrows?" Clark's voice sounded tight, and repressed; Hague reflected that perhaps the strain was getting him too.

"No, but Bucci is getting worse. Can't you carry him on the cart?"

"Hague, I've told you twenty times. That cart is full and breaking down now. Get it through your head that it's no longer individual men we can think of now, but the entire party. If they can't march, they must be left, or all of us may die!" His voice was savage, and when he tried to light a cigarette his hand shook. "All right. It's murder, and I don't like it any better than you do."

"How are we doing? What's the over-all picture?" Both of the officers tried to smile a little at the memory of that pompous little phrase, favorite of a windbag they'd served under.

"Not good. Twenty-two of us now."

"Hirooka thinks we may be within radio range of Base soon," he continued more hopefully. "With this interference, we can't tell, though."

They talked a little longer, Arndt gave the gunnery officer a food-and-medical supply packet, and Hague's visitors became two bobbing glows of light that vanished down the trail.

A soul crushing weight of days passed while they strained forward through mud and green gloom, like men walking on a forest sea bottom. Then it was a cool dawn, and a tugging at his boot awoke the Lieutenant. Hurd, his face a strained mask, was peering into the officer's small shelter tent and jerking at his leg.

"Get awake, Lieutenant. I think they're here."

Hague struggled hard to blink off the exhausted sleep he'd been in.

"Listen, Lieutenant, one of them horns has been blowing. It's right here. Between us and the main party."

"Okay." Hague rolled swiftly from the tent as Hurd awoke the men. Hague moved swiftly to each.

"Brian, you handle the gun. Bucci, loader. Crosse, charger. Bormann, cover our right; Hurd the left. I'll watch the trail ahead."

Brian and Crosse worked swiftly and quietly with the lethal efficiency that had made them crack gunners at Fort Fisher, North Carolina. Bucci lay motionless at the ammunition box, but his eyes were bright, and he didn't seem to mind his feverish, swollen leg. The Sergeant and Crosse slewed the pneumatic gun to cover their back trail, and fell into position beside the gleaming grey tube. Hague, Bormann and Hurd moved quickly at striking tents and rolling packs, their rifles ready at hand.

Hague had forgotten his fears and the self-doubt, the feeling that he had no business ordering men like Sergeant Brian, and Hurd and Bormann. They were swallowed in intense expectancy as he lay watching the dawn fog that obscured like thick smoke the trail that led to Clark's party and the whippet tank.

He peered back over his shoulder for a moment. Brian, Bucci, and Crosse, mud-stained backs toward him, were checking the gun and murmuring soft comments. Bormann looked at the officer, grinned tightly, and pointed at Helen perched on his shoulder. His lips carefully framed the words, "Be a pushover, Helen brings luck."

The little bird peered up into Bormann's old-young face, and Hague, trying to grin back, hoped he looked confident. Hurd lay on the other side of the trail, his back to Bormann, peering over his rifle barrel, bearded jaws rhythmically working a cud of tobacco he'd salvaged somewhere, and Hague suddenly thought he must have been saving it for the finish.

Hague looked back into the green light beginning to penetrate the trail fog, changing it into a glowing mass—then thought he saw a movement. Up the trail, the whippet tank's motor caught with a roar, and he heard Whittaker traversing the battered tank's turret. The turret gun boomed flatly, and a shell burst somewhere in the forest darkness to Hague's right.

Then there was a gobbling yell and gray man-like figures poured out onto the trail. Hague set his sights on them, the black sight-blade silhouetting sharply in the glowing fog. He set them on a running figure, and squeezed his trigger, then again, and again, as new targets came. Sharp reports ran crackling among the great trees. Sharp screams came, and a whistling

sound overhead that he knew were blowgun arrows. The pneumatic gun sputtered behind him, and Bormann's and Hurd's rifles thudded in the growing roar.

Blue flashes and explosive bullets made fantastic flares back in the forest shadows; and suddenly a knot of man-shapes were running toward him through the fog. Hague picked out one in the glowing mist, fired, another, fired. Gobbling yells were around him, and he shot toward them through the fog, at point-blank range. A thing rose up beside him, and Hague yelled with murderous fury, and drove his belt-knife up into grey leather skin. Something burned his shoulder as he rolled aside and fired at the dark form standing over him with a poised, barbed spear. The blue-white flash was blinding, and he cursed and leaped up.

There was nothing more. Scattered shots, and the forest lay quiet again. After that shot at point-blank range, Hague's vision had blacked out.

"Anyone else need first aid?" he called, and tried to keep his voice firm. When there was silence, he said, "Hurd, lead me to the tank."

He heard the rat-faced man choke, "My God, he's blind."

"Just flash blindness, Hurd. Only temporary." Hague kept his face stiff, and hoped frantically that he was right, that it was just temporary blindness, temporary optic shock.

Sergeant Brian's icy voice cut in. "Gun's all right, Lieutenant. Nobody hurt. We fired twenty-eight rounds of H.E. No APX. Get going with him, Hurd."

He felt Hurd's tug at his elbow, and they made their way up the trail.

"What do they look like, Hurd?"

"These men-things? They're grey, about my size, skin looks like leather, and their heads are flattish. Eyes on the side of their heads, like a lizard. Not a stitch of clothes. Just a belt with a knife and arrow holder. And they got webbed claws for feet. They're ugly-looking things, sir. Here's the tank."

Clark's voice came, hard and clear. "That you, Hague?" Silence for a moment. "What's wrong? You're not blinded?"

Sewell had dropped his irascibility, and his voice was steady and kindly.

"Just flash blindness, isn't it, sir? This salve will fix you up. You've got a cut on your shoulder. I'll take care of that too."

"How are your men, Hague?" Clark sounded as though he were standing beside Hague.

"Not a scratch. We're ready to march."

"Five hurt here, three with the advance party, and two at the tank. We got 'em good, though. They hit the trail between our units and got fire from both sides. Must be twenty of them dead."

Hague grimaced at the sting of something Sewell had squeezed into his eyes. "Who was hurt?"

"Arndt, the geologist; his buddy, Galut, the botanist; lab technician Harker, Crewman Harker, and Szachek, the meteorologist man. How's your pneumatic ammunition?"

"We fired twenty-eight rounds of H.E."

Cartographer Hirooka's voice burst in excitedly.

"That gun crew of yours! Your gun crew got twenty-one of these—these lizard men. A bunch came up our back trail, and the pneumatic cut them to pieces."

"Good going, Hague. We'll leave you extended back there. I'm pulling in the advance party, and there'll be just two groups. We'll be at point, and you continue at afterguard." Clark was silent for a moment, then his voice came bitterly, "We're down to seventeen men, you know."

He cursed, and Hague heard the wiry little navigator slosh away through the mud and begin shouting orders. He and Hurd started back with Whittaker and Sergeant Sample yelling wild instructions from the tank as to what the rear guard might do with the next batch of lizard-men who came sneaking up.

Hague's vision was clearing, and he saw Balistierri and the photographer Whitcomb through a milky haze, measuring, photographing, and even dissecting several of the lizard-men. The back trail, swept by pneumatic gunfire was a wreck of wood splinters and smashed trees, smashed bodies, and cratered earth.

They broke down the gun, harnessed the equipment, and swung off at the sound of Clark's whistle. Bucci had to be supported between two of the others, and they took turnabout at the job, sloshing through the water and mud, with Bucci's one swollen leg dragging uselessly between them. It was punishing work as the heat veils shimmered and thickened, but no one seemed to consider leaving him behind, Hague noticed; and he

determined to say nothing about Clark's orders that the sick must be abandoned.

Days and nights flashed by in a dreary monotony of mud, heat, insects and thinning rations. Then one morning the giant trees began to thin, and they passed from rainforest into jungle.

The change was too late for Bucci. They carved a neat marker beside the trail, and set the dead youth's helmet atop it. Lieutenant Hague carried ahead a smudged letter in his shirt, with instructions to forward it to Wilma, the gunner's young wife.

Hague and his four gunners followed the rattling whippet tank's trail higher, the jungle fell behind, and their protesting legs carried them over the rim of a high, cloudswept plateau, that swept on to the limit of vision on both sides and ahead.

The city's black walls squatted secretively; foursquare, black, glassy walls with a blocky tower set sturdily at each of the four corners, enclosing what appeared to be a square mile of low buildings. Grey fog whipped coldly across the flat bleakness and rustled through dark grass.

Balistierri, plodding beside Hague at the rear, stared at it wearily, muttering, "And Childe Roland to the dark tower came."

Sampler's tank ground along the base of the twelve-foot wall, turned at a sharp right angle, and the party filed through a square cut opening that once had been a gate. The black city looked tenantless. There was dark-hued grass growing in the misted streets and squares, and across the lintels of cube-shaped, neatly aligned dwellings, fashioned of thick, black blocks. Hague could hear nothing but whipping wind, the tank's clatter, and the quiet clink of equipment as men shuffled ahead through the knee-high grass, peering watchfully into dark doorways.

Clark's whistle shrilled, the tank motor died, and they waited.

"Hague, come ahead."

The gunnery officer nodded at Sergeant Brian, and walked swiftly to Clark, who was leaning against the tank's mudcaked side.

"Sampler says we've got to make repairs on the tank. We'll shelter here. Set your gun on a roof top commanding the street —or, better yet, set it on the wall. I'll want two of your gunners to go hunting food animals."

"What do you think this place is, Bob?"

"Beats me," and the navigator's windburned face twisted in a perplexed expression. "Lenkranz knows more about metals, but he thinks this stone is volcanic, like obsidian. Those lizard-men couldn't have built it."

"We passed some kind of bas-relief or murals inside the gate."

"Whitcomb is going to photograph them. Blake, Lenkranz, Johnston, and Hirooka are going to explore the place. Your two gunners, and Crewman Swenson and Balistierri will form the two hunting parties."

For five days, Hague and Crosse walked over the sullen plateau beneath scudding, leaden clouds, hunting little lizards that resembled dinosaurs and ran in coveys like grey chickens. The meat was good, and Sewell dropped his role of medical technician to achieve glowing accolades as an expert cook. Balistierri was in a zoologist's paradise, and he hunted over the windy plain with Swenson, the big white-haired Swede, for ten and twelve hours at a stretch. Balistierri would sit in the cook's unit glow at night, his thin face ecstatic as he described the weird life forms he and Swenson had tracked down during the day; or alternately he'd bemoan the necessity of eating what were to him priceless zoological specimens.

Whittaker and Sampler hammered in the recalcitrant tank's bowels and shouted ribald remarks to anyone nearby, until they emerged the third day, grease-stained and perspiring, to announce that "She's ready to roll her g— d— cleats off."

Whittaker had been nursing the tank's radio transreceiver beside the forward hatch this grey afternoon, when his wild yell brought Hague erect. The officer carefully handed Bormann's skin bird back to the gunner, swung down from the city wall's edge, and ran to Whittaker's side. Clark was already there when Hague reached the tank.

"Listen! I've got 'em!" Whittaker yelped and extended the crackling earphones to Clark.

A tinny voice penetrated the interference.

"Base . . . Peter One . . . Do you hear . . . to George Easy Peter One . . . hear me . . . out."

Whittaker snapped on his throat microphone.

"George Easy Peter One To Base. George Easy Peter One To Base. We hear you. We hear you. Rocket crashed. Rocket

crashed. Returning overland. Returning overland. Present strength sixteen men. Can you drop us supplies? Can you drop us supplies?"

The earphones sputtered, but no more voices came through. Clark's excited face fell into tired lines.

"We've lost them. Keep trying, Whittaker. Hague, we'll march-order tomorrow at dawn. You'll take the rear again."

Grey, windy dawnlight brought them out to the sound of Clark's call. Strapping on equipment and plates, they assembled around the tank. They were rested, and full fed.

"Walk, you poor devils," Whittaker was yelling from his tank turret. "And, if you get tired, run awhile," he snorted, grinning heartlessly, as he leaned back in pretended luxury against the gunner's seat, a thinly padded metal strip.

Balistierri and the blond Swenson shouldered their rifles and shuffled out. They would move well in advance as scouts.

"I wouldn't ride in that armored alarm-clock if it had a built-in harem," Hurd was screaming at Whittaker, and hurled a well-placed mudball at the tankman's head as the tank motor caught, and the metal vehicle lumbered ahead toward the gate, with Whittaker sneering, but with most of his head safely below the turret rim. Beside it marched Clark, his ragged uniform carefully scraped clean of mud, and with him Lenkranz, the metals man. Both carried rifles and wore half empty bandoliers of blast cartridges.

The supply cart jerked behind the tank, and behind it filed Whitcomb with his cameras; Sewell, the big, laconic medical technician; Johnston; cartographer Hirooka perusing absorbedly the clip board that held his strip map; Blake, the lean and spectacled bacteriologist, brought up the rear. Hague waited until they had disappeared through the gate cut sharply in the city's black wall, then he turned to his gun crew.

Sergeant Brian, saturnine as always, swung past carrying the pneumatic barrel assembly, Crosse with the charger a pace behind. Next, Bormann, whispering to Helen who rode his shoulder piping throaty calls. Last came Hurd, swaggering past with jaws grinding steadily at that mysterious cud. Hague cast a glance over his shoulder at the deserted street of black cubes, wondered at the dank loneness of the place, and followed Hurd.

The hours wore on as they swung across dark grass, through damp tendrils of cloud, and faced into whipping, cold wind, eyes narrowed against its sting. Helen, squawking unhappily, crawled inside Bormann's shirt and rode with just her brown bird-head protruding.

"Look at the big hole, Lieutenant," Hurd called above the wind.

Hurd had dropped behind, and Hague called a halt to investigate Hurd's find, but as he hiked rapidly back, the wiry little man yelled and pitched out of sight. Brian came running, and he and Hague peered over the edge of a funnel shaped pit, from which Hurd was trying to crawl. Each time he'd get a third of the way up the eighteen-foot slope, gravelly soil would slide and he'd again be carried to the bottom.

"Throw me a line."

Brian pulled a hank of nylon line from his belt, shook out the snarls, and tossed an end into Hurd's clawing hands. Hague and the Sergeant anchored themselves to the upper end and were preparing to haul, when Hague saw something move in the gravel beneath Hurd's feet, at the funnel bottom, and saw a giant pincers emerging from loose, black gravel.

"Hurd look out!" he screamed.

The little man, white-faced, threw himself aside as a giant beetle head erupted through the funnel bottom. The great pincers jaws fastened around Hurd's waist as he struggled frantically up the pit's side. He began screaming when the beetle monster dragged him relentlessly down, his distorted face flung up at them appealingly. Hague snatched at his rifle and brought it up. When the gun cracked, the pincer's tightened on Hurd's middle, and the little man was snipped in half. The blue-white flash and report of the explosive bullet blended with Hurd's choked yells, the beetle rolled over on its back and the two bodies lay entangled at the pit bottom. Brian and Hague looked at each other in silent, blanched horror, then turned from the pit's edge and loped back to the others.

Bormann and Crosse peered fearfully across the windwhipped grass, and inquired in shouts what Hurd was doing.

"He's dead, gone," Hague yelled savagely over the wind's whine. "Keep moving. We can't do anything. Keep going."

IV

At 1630 hours Commander Technician Harker slipped on the earset, threw over a transmitting switch, and monotoned the routine verbal message.

"Base to George Easy Peter One . . . Base to George Easy Peter One . . . Do you hear me George Easy Peter One . . . Do you hear me George Easy Peter One . . . reply please . . . reply please." Nothing came from his earphones, but bursts of crackling interference, until he tried the copters next, and "George Easy Peter Two" and "George Easy Peter Three" reported in. They were operating near the base.

He tried "One" again, just in case.

"Base to George Easy Peter One . . . Base to George Easy Peter One . . . Do you hear me . . . Do you hear me . . . out."

A scratching whisper resolved over the interference. Harker's face wore a stunned look, but he quickly flung over a second switch and the scratching voice blared over the mother ship's entire address system. Men dropped their work throughout the great hull, and clustered around the speakers.

"George One . . . Base . . . hear you . . . rocket crashed . . . overland . . . present strength . . . supplies . . . drop supplies."

Interference surged back and drowned the whispering voice, while through Odysseus' hull a ragged cheer grew and gathered volume. Harker shut off the address system and strained over his crackling earphones, but nothing more came in response to his radio calls.

He glanced up and found the Warning Room jammed with technicians, science section members, officers, men in laboratory smocks, or greasy overalls, or spotless Rocket Service uniforms, watching intently his own strained face as he tried to get through. Commander Chapman looked haggard, and Harker remembered that someone had once said that Chapman's young sister was the wife of the medical technician who'd gone out with Patrol Rocket One.

Harker finally pulled off the earphones reluctantly and set

them on the table before him. "That's all. You heard everything they said over the P.A. system. Nothing more is coming through."

Night came, another day, night again, and they came finally to the plateau's end, and stood staring from a windy escarpment across an endless roof of rainforest far below, grey green under the continuous roof of lead-colored clouds. Hague, standing back a little, watched them. A thin line of ragged men along the rim peering mournfully out across that endless expanse for a gleam that might be the distant hull of Odysseus, the mother ship. A damp wind fluttered their rags and plastered them against gaunt bodies.

Clark and Sampler were conferring in shouts.

"Will the tank make it down this grade?" Clark wanted to know.

For once, Sergeant Sampler's mobile, merry face was grim.

"I don't know, but we'll sure try. Be ready to cut that cart loose if the tank starts to slip."

Drag ropes were fastened to the cart, a man stationed at the tank hitch, and Sampler sent his tank lurching forward over the edge, and it slanted down at a sharp angle. Hague, holding a drag rope, set his heels and allowed the tank's weight to pull him forward over the rim; and the tank, cart, and muddy figures hanging to drag ropes began descending the steep gradient. Bormann, just ahead of the Lieutenant, strained back at the rope and turned a tight face over his shoulder.

"She's slipping faster!"

The tank was picking up speed, and Hague heard the clash of gears as Sampler tried to fight the downward pull of gravity. Gears ground, and Sampler forced the whippet straight again, but the downward slide was increasing. Hague was flattened under Bormann, heels digging, and behind him he could hear Sergeant Brian cursing, struggling to keep flat against the downward pull.

The tank careened sideways again, slipped, and Whittaker's white face popped from her turret.

"She's going," he screamed.

A drag rope parted. Clark sprang like a madman between tank and cart, and cut the hitch. The tank, with no longer suffi-

cient restraining weight, tipped with slow majesty outward, then rolled out and down, bouncing, smashing as if in a slow motion film, shedding parts at each crushing contact. It looked like a toy below them, still rolling and gathering speed, when Hague saw Whittaker's body fly free, a tiny ragdoll at that distance, and the tank was lost to view when it bounced off a ledge and went floating down through space.

Clark signalled them forward, and they inched the supply cart downward on the drag ropes, legs trembling with strain, and their nerves twitching at the memory of Whittaker's chalky face peering from the falling turret. It was eight hours before they reached the bottom, reeling with exhaustion, set a guard, and tumbled into their shelter tents. Outside, Hague could hear Clark pacing restlessly, trying to assure himself that he'd been right to cut the tank free, that there'd been no chance to save Whittaker and Sampler when the tank began to slide.

Hague lay in his little tent listening to the footsteps splash past in muddy Venusian soil, and was thankful that he hadn't had to make the decision. He'd been saving three cigarettes in an oilskin packet, and he drew one carefully from the wrapping now, lit it, and inhaled deeply. Could he have done what Clark did—break that hitch? He still didn't know when he took a last lung-filling pull at the tiny stub of cigarette and crushed it out carefully.

As dawn filtered through the cloud layer, they were rolling shelter tents and buckling on equipment. Clark's face was a worn mask when he talked with Hague, and his fingers shook over his pack buckles.

"There are thirteen of us. Six men will pull the supply cart, and six guard, in four hour shifts. You and I will alternate command at guard."

He was silent for a moment, then watched Hague's face intently as he spoke again.

"It'll be a first grade miracle if any of us get through. Hague, you—you know I had to cut that tank free." His voice rose nervously. "You know that! You're an officer."

"Yeah, I guess you did." Hague couldn't say it any better, and he turned away and fussed busily with the bars holding the portable Sonar detection unit to the supply cart.

They moved off with Hague leaning into harness pulling the

supply cart bumpily ahead. Clark stumbled jerkily at the head, with Blake, a lean, silent ghost beside him, rifle in hand. The cart came next with Hague, Bormann, Sergeant Brian, Crosse, Lenkranz and Sewell leaning in single file against its weight. At the rear marched photographer Whitcomb, Hirooka with his maps, and Balistierri, each carrying a rifle. The big Swede Swenson was last in line, peering warily back into the rainforest shadows. The thirteen men wound Indian file from sight of the flat-headed reptilian thing, clutching a sheaf of bronze arrows, that watched them.

Hague had lost count of days again when he looked up into the shadowy forest roof, his feet finding their way unconsciously through the thin mud, his ears registering automatically the murmurs of talk behind him, the supply cart's tortured creaking, and the continuous Sonar drone. The air felt different, warmer than its usual steam bath heat, close and charged with expectancy, and the forest seemed to crouch in waiting with the repressed silence of a hunting cat.

Crosse yelled thinly from the rear of the file, and they all halted to listen, the hauling crew dropping their harness thankfully. Hague turned back and saw Crosse's thin arm waving a rifle overhead, then pointing down the trail. The Lieutenant listened carefully until he caught the sound, a thin call, the sound of a horn mellowed by distance.

The men unthinkingly moved in close and threw wary looks into the forest ways around them.

"Move further ahead, Hague. Must be more lizard men." Clark swore, with tired despair. "All right, let's get moving and make it fast."

The cart creaked ahead again, moving faster this time, and the snicking of rifle bolts came to Hague. He moved swiftly ahead on the trail and glanced up again, saw breaks in the forest roof, and realized that the huge trees were pitching wildly far above.

"Look up," he yelled, "wind coming!"

The wind came suddenly, striking with stone wall solidity. Hague sprinted to the cart, and the struggling body of men worked it off the trail, and into a buttress angle of two great tree roots, lashing it there with nylon ropes. The wind velocity

increased, smashing torn branches overhead, and ripping at the men who lay with their heads well down in the mud. Tiny animals were blown hurtling past, and once a great spider came flailing in cartwheel fashion, then smashed brokenly against a tree.

The wind drone rose in volume, the air darkened, and Hague lost sight of the other men from behind his huddled shelter against a wall-like root. The great trees twisted with groaning protest, and thunderous crashes came downward through the forest, with sometimes the faint squeak of a dying or frightened animal. The wind halted for a breathless, hushed moment of utter stillness, broken only by the dropping of limbs and the scurry of small life forms—then came the screaming fury from the opposite direction.

For a moment, the gunnery officer thought he'd be torn from the root to which his clawing fingers clung. Its brutal force smashed breath from Hague's lungs and held him pinned in his corner until he struggled choking for air as a drowning man does. It seemed that he couldn't draw breath, that the air was a solid mass from which he could no longer get life. Then the wind stopped as suddenly as it had come, leaving dazed quiet. As he stumbled back to the cart, Hague saw crushed beneath a thigh-sized limb a feebly moving reptilian head; and the dying eyes of the lizard-man were still able to stare at him in cold malevolence.

The supply cart was still intact, roped between buttressing roots to belt knives driven into the tough wood. Hague and Clark freed it, called a hasty roll, and the march was resumed at a fast pace through cooled, cleaner air. They could no longer hear horn sounds; but the grim knowledge that lizard-men were near them lent strength, and Hague led as rapidly as he dared, listening carefully to the Sonar's drone behind him, altering his course when the sound faded, and straightening out when it grew in volume.

A day slipped by and another, and the cart rolled ahead through thin greasy mud on the forest floor, with the Sonar's drone mingled with murmuring men's voices talking of food. It was the universal topic, and they carefully worked out prolonged menus each would engorge when they reached home. They forgot heat, insect bites, the sapping humidity, and talked of food

—steaming roasts, flanked by crystal goblets of iced wine, oily roasted nuts, and lush, crisp green salads.

▼

Hague, again marching ahead with Balistierri, broke into the comparatively bright clearing, and was blinded for a moment by the sudden, cloud-strained light after days of forest darkness. As their eyes accommodated to the lemon-colored glare, he and Balistierri sighted the animals squatting beneath low bushes that grew thickly in the clearing. They were monkey-like primates with golden tawny coats, a cockatoo crest of white flaring above dog faces. The monkeys stared a moment, the great white crests rising doubtfully, ivory canine teeth fully three inches long bared.

They'd been feeding on fruit that dotted the shrub-filled clearing; but now one screamed a warning, and they sprang into vines that made a matted wall on every side. The two rifles cracked together again, and three fantastically colored bodies lay quiet, while the rest of the troop fled screaming into tree tops and disappeared. At the blast of sound, a fluttering kaleidoscope of color swept up about the startled rocketeers, and they stood blinded, while mad whorls of color whirled around them in a miniature storm.

"Giant butterflies," Balistierri was screaming in ecstasy. "Look at them! Big as a dove!"

Hague watched the bright insects coalesce into one agitated mass of vermilion, azure, metallic green, and sulphur yellow twenty feet overhead. The pulsating mass of hues resolved itself into single insects, with wings large as dinnerplates, and they streamed out of sight over the forest roof.

"What were they?" he grinned at Balistierri. "Going to name them after Bormann?"

The slight zoologist still watched the spot where they'd vanished.

"Does it matter much what I call them? Do you really believe anyone will ever be able to read this logbook I'm making?" He eyed the gunnery officer bleakly, then, "Well, come on. We'd better skin these monks. They're food anyway."

Hague followed Balistierri, and they stood looking down at

the golden furred primates. The zoologist knelt, fingered a bedraggled white crest, and remarked, "These blast cartridges don't leave much meat, do they? Hardly enough for the whole party." He pulled a tiny metal block, with a hook and dial, from his pocket, loped the hook through a tendon in the monkey's leg and lifted the dead animal.

"Hmmm. Forty-seven pounds. Not bad." He weighed each in turn, made measurements, and entered these in his pocket notebook.

The circle around Sewell, who presided over the cook unit, was merry that night. The men's eyes were bright in the heater glow as they stuffed their shrunken stomachs with monkey meat and the fruits the monkeys had been eating when Hague and Balistierri surprised them. Swenson and Crosse and Whitcomb, the photographer, overate and were violently sick; but the others sat picking their teeth contentedly in a close circle. Bormann pulled his harmonica from his shirt pocket, and the hard, silvery torrent of music set them to singing softly. Hague and Blake, the bacteriologist, stood guard among the trees.

At dawn, they were marching again, stepping more briskly over tiny creeks, through green-tinted mud, and the wet heat. At noon, they heard the horn again, and Clark ordered silence and a faster pace. They swung swiftly, eating iron rations as they marched. Hague leaned into his cart harness and watched perspiration staining through Bormann's shirted back just ahead of him. Behind, Sergeant Brian tugged manfully, and growled under his breath at buzzing insects, slapping occasionally with a low howl of muted anguish. Helen, the skin bird, rode on Bormann's shoulder, staring back into Hague's face with questioning chirps; and Hague was whistling softly between his teeth at her, when Bormann stopped suddenly and Hague slammed into him. Helen took flight with a startled squawk, and Clark came loping back to demand quiet. Bormann stared at the two officers, his young-old face blank with surprise.

"I'm, I'm shot," he stuttered, and stared wonderingly at the thing thrusting from the side opening in his chest armor. It was one of the fragile bronze arrows, gleaming metallically in the forest gloom.

Hague cursed, and jerked free of the cart harness.

"Here, I'll get it free." He tugged at the shaft, and Bormann's

face twisted. Hague stepped back. "Where's Sewell? This thing must be barbed."

"Back off the trail! Form a wide circle around the cart, but stay under cover! Fight 'em on their own ground!" Clark was yelling, and the men clustered about the cart faded into forest corridors.

Hague and Sewell, left alone, dragged Bormann's limp length beneath the metal cart. Hague leaped erect again, manhandled the pneumatic gun off the cart and onto the trail, spun the charger crank, and lay down in firing position. Behind him, Sewell grunted, "He's gone. Arrow poison must have paralyzed his diaphragm and chest muscles."

"Okay. Get up here and handle the ammunition." Hague's face was savage as the medical technician crawled into position beside him and opened an ammunition carrier.

"Watch the trail behind me," Hague continued, slamming up the top cover plate and jerking a belt through the pneumatic breech. "When I yell charge, spin the charger crank; and when I yell off a number, set the meter arrow at that number." He snapped the cover plate shut and locked it.

"The other way! They're coming the other way!" Sewell lumbered to his knees, and the two heaved the gun around. A blowgun arrow rattled off the cart body above them, and gobbling yells filtered among the trees with an answering crack of explosive cartridges. A screaming knot of grey figures came sprinting down on the cart. Hague squeezed the pneumatic's trigger, the gun coughed, and the blue-fire-limned lizard-men crumpled in the trail mud.

"Okay, give 'em a few the other way."

The two men horsed the gun around and sent a buzzing flock of explosive loads down the forest corridor opening ahead of the cart. They began firing carefully down other corridors opening off the trail, aiming delicately less their missiles explode too close and the concussion kill their own men; but they worked a blasting circle of destruction that smashed the great trees back in the forest and made openings in the forest roof. Blue fire flashed in the shadows and froze weird tableaus of screaming lizard-men and hurtling mud, branches, and great splinters of wood.

An exulting yell burst behind them. Hague saw Sewell stare

over his shoulder, face contorted, then the big medical technician sprang to his feet. Hague rolled hard, pulled his belt knife, and saw Sewell and a grey man-shape locked in combat above him, saw leathery grey claws drive a bronze knife into the medic's unarmored throat; and then the gunnery officer was on his feet, knife slashing, and the lizard-man fell across the prone Sewell. An almost audible silence fell over the forest, and Hague saw rocketeers filtering back onto the cart trail, rifles cautiously extended at ready.

"Where's Clark?" he asked Lenkranz. The grey-haired metals man gazed back dully.

"I haven't seen him since we left the trail. I was with Swenson."

The others moved in, and Hague listed the casualties. Sewell, Bormann, and Lieutenant Clark. Gunnery Officer Clarence Hague was now in command. That the Junior Lieutenant now commanded Ground Expeditionary Patrol Number One trickled into his still numb brain; and he wondered for a moment what the Base Commander would think of their chances if he knew. Then he took stock of his little command.

There was young Crosse, his face twitching nervously. There was Blake, the tall, quiet bacteriologist; Lenkranz, the metals man; Hirooka, the Nisei; Balistierri; Whitcomb, the photographer, with a battered Hasselbladt still dangling by its neck cord against his armored chest. Swenson was still there, the big Swede crewman; and imperturbable Sergeant Brian, who was now calmly cleaning the pneumatic gun's loading mechanism. And, Helen, Bormann's skin bird, fluttering over the ration cart, beneath which Bormann and Sewell lay in the mud.

"Crosse, Lenkranz, burial detail. Get going." It was Hague's first order as Commander. He thought the two looked most woebegone of the party, and figured digging might loosen their nerves.

Crosse stared at him, and then sat suddenly against a tree bole.

"I'm not going to dig. I'm not going to march. This is crazy. We're going to get killed. I'll wait for it right here. Why do we keep walking and walking when we're going to die anyway?" His rising voice cracked, and he burst into hysterical laughter. Sergeant Brian rose quietly from his gun cleaning, jerked Crosse to

his feet, and slapped him into quiet. Then he turned to Hague.

"Shall I take charge of the burial detail, sir?"

Hague nodded; and suddenly his long dislike of the iron-hard Sergeant melted into warm liking and admiration. Brian was the man who'd get them all through.

The Sergeant knotted his dark brows truculently at Hague. "And I don't believe Crosse meant what he said. He's a very brave man. We all get a little jumpy. But he's a good man, a good Rocketeer."

Three markers beside the trail, and a pile of dumped equipment marked the battle ground when the cart swung forward again. Hague had dropped all the recording instruments, saving only Whitcomb's exposed films, the rations, rifle ammunition, and logbooks that had been kept by different members of the science section. At his command, Sergeant Brian reluctantly smashed the pneumatic gun's firing mechanism, and left the gun squatting on its tripod beside charger and shell belts. With the lightened load, Hague figured three men could handle the cart, and he took his place with Brian and Crosse in the harness. The others no longer walked in the trail, but filtered between great root-flanges and tree boles on either side, guiding themselves by the Sonar's hum.

They left no more trail markers, and Hague cautioned them against making any unnecessary noise.

"No trail markers behind us. This mud is watery enough to hide footprints in a few minutes. We're making no noise, and we'll drop no more refuse. All they can hear will be the Sonar, and that won't carry far."

On the seventy-first day of the march, Hague squatted, fell almost to the ground, and grunted, "Take ten."

He stared at the stained, ragged scarecrows hunkered about him in forest mud.

"Why do we do it?" he asked no one in particular. "Why do we keep going, and going, and going? Why don't we just lie down and die? That would be the easiest thing I could think of right now." He knew that Rocket Service officers didn't talk that way, but he didn't feel like an officer, just a tired, feverish, bone-weary man.

"Have we got a great glowing tradition to inspire us?" he snarled. "No, we're just the lousy rocketeers that every other service arm plans to absorb. We haven't a Grant or a John Paul Jones to provide an example in a tough spot. The U.S. Rocket Service has nothing but the memory of some ships that went out and never came back; and you can't make a legend out of men who just plain vanish."

There was silence, and it looked as if the muddy figures were too exhausted to reply. Then Sergeant Brian spoke.

"The Rocketeers have a legend, sir."

"What legend, Brian?" Hague snorted.

"Here is the legend, sir. 'George Easy Peter One.' "

Hague laughed hollowly, but the Sergeant continued as if he hadn't heard.

"Ground Expeditionary Patrol One—the outfit a planet couldn't lick. Venus threw her grab bag at us, animals, swamps, poison plants, starvation, fever, and we kept right on coming. She just made us smarter, and tougher, and harder to beat. And we'll blast through these lizard-men and the jungle, and march into Base like the whole U.S. Armed Forces on review."

"Let's go," Hague called, and they staggered up again, nine gaunt bundles of sodden, muddy rags, capped in trim black steel helmets with cheek guards down. The others slipped off the trail, and Hague, Brian, and Crosse pulled on the cart harness and lurched forward. The cart wheel hub jammed against a tree bole, and as they strained blindly ahead to free it, a horn note drifted from afar.

"Here they come again," Crosse groaned.

"They—won't be—up—with us—for days," Hague grunted, while he threw his weight in jerks against the tow line. The cart lurched free with a lunge, and all three shot forward and sprawled raging in the muddy trail.

They sat wiping mud from their faces, when Brian stopped suddenly, ripped off his helmet and threw it aside, then sat tensely forward in an attitude of strained listening. Hague had time to wonder dully if the man's brain had snapped, before he crawled to his feet.

"Shut up, and listen," Brian was snarling. "Hear it! Hear it! It's a klaxon! Way off, about every two seconds!"

Hague tugged off his heavy helmet, and strained every nerve to listen. Over the forest silence it came with pulse-like regularity, a tiny whisper of sound.

He and Brian stared bright-eyed at each other, not quite daring to say which they were thinking. Crosse got up and leaned like an empty sack against the cartwheel with an inane questioning look.

"What is it?" When they stared at him without speaking, still listening intently, "It's the Base. That's it, it's the Base!"

Something choked Hague's throat, then he was yelling and firing his rifle. The rest came scuttling out of the forest shadow, faces breaking into wild grins, and they joined Hague, the forest rocking with gunfire. They moved forward, and Hirooka took up a thin chant:

"Oooooooh, the Rocketeers
have shaggy ears.
They're dirty——."

The rest of their lyrics wouldn't look well in print; but where the Rocketeers have gone, on every frontier of space, the ribald song is sung. The little file moved down the trail toward the klaxon sound. Behind them, something moved in the gloom, resolved itself into a reptile-headed, man-like thing, that reared a small wooden trumpet to fit its mouth, a soft horn note floated clear; and other shapes became visible, sprinting forward, flitting through the gloom . . .

When a red light flashed over Chapman's desk, he flung down a sheaf of papers and hurried down steel-walled corridors to the number one shaft. A tiny elevator swept him to Odysseus' upper side, where a shallow pit had been set in the ship's scarred skin, and a pneumatic gun installed. Chapman hurried past the gun and crew to stand beside a listening device. The four huge cones loomed dark against the clouds, the operator in their center was a blob of shadow in the dawnlight, where he huddled listening to a chanting murmur that came from his headset. Blake came running onto the gun-deck; Bjornson, and the staff officers were all there.

"Cut it into the Address system," Chapman told the Listener

operator excitedly; and the faint sounds were amplified through the whole ship. From humming Address amplifiers, the ribald words broke in a hoarse melody.

"The rocketeers have shaggy ears,
They're dirty——"

The rest described in vivid detail the prowess of rocketeers in general.

"How far are they?" Chapman demanded.

The operator pointed at a dial, fingered a knob that altered his receiving cones split-seconds of angle. "They're about twenty-five miles, sir."

Chapman turned to the officers gathered in an exultant circle behind him.

"Branch, here's your chance for action. Take thirty men, our whippet tank, and go out to them. Bjornson, get the 'copters aloft for air cover."

Twenty minutes later, Chapman watched a column assemble beneath the Odysseus' gleaming side, and march into the jungle, with the 'copters buzzing west a moment later, like vindictive dragon flies.

Breakfast was brought to the men clustered at Warnings equipment, and to Chapman at his post on the gundeck. The day ticked away, the parade ground vanished in thickening clots of night; and a second dawn found the watchers still at their posts, listening to queer sounds that trickled from the speakers. The singing had stopped; but once they heard a note that a horn might make, and several times gobbling yells that didn't sound human. George One was fighting, they knew now. The listeners picked up crackling of rifle fire, and when that died there was silence.

The watchers heard a short cheer that died suddenly, as the relief column and George One met; and they waited and watched. Branch, who headed the relief column communicated with the mother ship by the simple expedient of yelling, the sound being picked up by the listeners.

"They're coming in, Chapman. I'm coming behind to guard their rear. They've been attacked by some kind of lizard-men. I'm not saying a thing—see for yourself when they arrive."

Hours rolled past, while they speculated in low tones, the hush that held the ship growing taut and strained.

"Surely Branch would have told us if anything was wrong, or if the records were lost," Chapman barked angrily. "Why did he have to be so damned melodramatic?"

"Look, there—through the trees. A helmet glinted!" The laconic Bjornson had thrown dignity to the winds, and capered like a drunken goat, as Rindell described it later.

Chapman stared down at the jungle edging the parade ground and caught a movement.

A man with a rifle came through the fringe and stood eying the ship in silence, and then came walking forward across the long, cindered expanse. From this height, he looked to Chapman like a child's lead soldier, a ragged, muddy, midget scarecrow. Another stir in the trees, and one more man, skulking like an infantry flanker with rifle at ready. He, too, straightened and came walking quietly forward. A file of three men came next, leaning into the harness of a little metal cart that bumped drunkenly as they dragged it forward. An instant of waiting, and two more men stole from the jungle, more like attacking infantry than returning heroes. Chapman waited, and no more came. This was all.

"My God, no wonder Branch wouldn't tell us. There were thirty-two of them." Rindell's voice was choked.

"Yes, only seven." Chapman remembered his field glasses and focused them on the seven approaching men. "Lieutenant Hague is the only officer. And they're handing us the future of the U.S. Rocket Service on that little metal cart."

The quiet shattered and a yelling horde of men poured from Odysseus' hull and engulfed the tattered seven, sweeping around them, yelling, cheering, and carrying them toward the mother ship.

Chapman looked a little awed as he turned to the officers behind him. "Well they did it. We forward these records, and we've proven that we can do the job." He broke into a grin. "What am I talking about? Of course we did the job. We'll always do the job. We're the Rocketeers, aren't we?"

Christmas Tree

BY CHRISTOPHER YOUD

THE SKIPPER cushioned us in nicely. I had my eyes on the dial the whole time and the needle never got above four and a half G's. With a boat like the *Arkland* that was good; I've known a bad pilot to touch seven G's on an Earth landing. All the same I didn't feel so hot. Young Stenway was out of his cradle before the tremors had stopped. I lay still a moment while he stood over me, grinning:

"Break it up, Joe. Dreaming of a pension?"

I got up with a bounce and landed him a playful clip that rocked him back into his own cradle. There was normal gravity underneath us; the feeling of rightness you know in your bones and muscles no matter how long you've been away. It was good to feel myself tough still.

"So this is Washington. What day is it?" Stenway asked.

"You revert to type quick, kid. How should I know what day it is? I'm only a visitor."

He grinned, flushing a little, and went over to the multiple calendar. I saw him fingering it, his face screwed up.

"Friday. Say, Joe, if we take more than fourteen days on the turn-round, we'll make Christmas here."

"If we take more than ten days on the turn-round," I shot back, "the whole Board of Directors will commit gory suicide. What's worrying you?"

He grinned lopsidedly, and went out in a hurry. I was a bit sorry for him. He'd done less than a year in the Service. Things weren't the right pattern for him yet. He probably thought some of us were tough eggs. But we had to ride him down now and then for his own good.

I went along to see Louis. He'd been in space only a couple of years less than I had, and we'd both been with the *Arkland* since she was commissioned eight years before. But we didn't see each other much, working on different shifts and pretty nearly at opposite ends of the boat. I found him in the mess, sprucing up. He called out:

"Hello, Joe. You still with us?"

"Why not?"

"Borrowed time—just borrowed time."

"Louis. Do me a favor."

"Sure, Joe. Any little thing."

He put down a hairbrush and started powdering his face, overlaying the finely raveled seams of red that told he'd been out in vacuum. I couldn't understand that myself. It made you a bit unusual on Earth, it stamped you as a spaceman, but who'd be ashamed of that? Still, I've never been branded myself, so maybe I shouldn't talk.

"You handling the loading for the next trip, Louie?"

He pressed the powder in with his fingertips, and nodded.

"I want to get something on board."

"How big?" Louie asked.

I shrugged lightly. "About five feet long. Maybe two feet across, at it widest—when it's tied up."

Louie jutted his chin out and flicked a patch of black velvet across his face. He spoke through his teeth:

"What about the Pentagon Building, if you want a souvenir?"

"What would I do with the Pentagon Building?"

Louie turned round. "Look, Joe, you know how things are. You know the cost of space-freighting. There isn't a quarter-ounce of cargo weight that isn't accounted for. What do you want to fit in, anyway?"

"This is for old Hans. I thought of taking him a Christmas tree."

Louie didn't say anything for a moment. He had brushed the powder well in, but you could still see the crimson network underneath. At last he said:

"O.K. Get it up here the night before we blast. I'll fix it for you."

"Thanks, Louie. When will that be, by the way? Have they told you?"

"Nineteenth. Now go and raise hell for nine days. But don't forget the Medical tomorrow."

I looked at him sharply, but he was brushing in another layer of powder. Medical was a routine, always taken between eighteen and twenty-four hours after cushioning. The doctors knew why, or said they did. It wasn't the sort of thing you'd forget. But it wasn't worth taking him up on it.

The *Arkland* touched at Washington every fifth trip. I knew quite a few numbers and had my usual haunts. There was a somber moment once when one of the girls relaxed and the wrinkles stood out, but it passed. There's always the younger generation. I let it get round to the day before blasting before I dropped in on the company's office. They've got a block of masonry on Roosevelt Boulevard that's bigger than Luna City. Welfare in on Floor 32. It makes me airsick to look out of their windows.

There was a cute little blonde at the desk and it occurred to me that next time I might contact Welfare at the beginning of a furlough. She looked as though she could get through my backpay as well as any.

I said: "You can help me out. I want to buy a Christmas tree."

She looked surprised and rather disappointed, but she was businesslike. She waded through a pile of directories like a terrier after rats.

"Christmas trees," she said. "Your best bet is the Leecliff Nurseries. Mr. Cliff. About fifteen miles out. You can pick up a gyro on the roof."

"Don't tell me there's a roof on this thing," I said.

She just smiled very nicely.

"Keep a week free next November," I told her as I turned to leave. "I'll be back."

The gyro did the trip in just over ten minutes. Where it put me down you wouldn't guess such a place as Washington existed. One way there were a lot of low sheds and a few glasshouses. The other way there were just fields and fields of plants

growing. I realized that it was more than ten years since I'd been outside a city on an Earth furlough. You get into habits. For the first time it occurred to me that I might have been missing something.

They had phoned Mr. Cliff I was coming; "Good Service" is the Company's motto. He was waiting when the gyro touched. A little round fellow, with a look as though something had surprised him. He said:

"Major Davies, I'm delighted to see you. We don't see many spacemen. Come and see my roses."

He seemed eager and I let him take me. I wasn't breaking my neck to get back into town.

He had a glasshouse full of roses. I hesitated in the doorway. Mr. Cliff said: "Well?"

"I'd forgotten they smelled like that," I told him.

He said proudly, "It's quite a showing. A week before Christmas and a showing like that. Look at this Frau Karl Druschki."

It was a white rose, very nicely shaped and scented like spring. The roses had me. I crawled round after Mr. Cliff, seeing roses, feeling roses, breathing roses. I looked at my watch when it began to get dark.

"I came to buy a Christmas tree, Mr. Cliff."

We left the rose house reluctantly.

"Christmas on Earth for a change, Major Davies?"

"No—Luna City. It's for someone there."

He waited for me to go on.

"A guy called Hans," I said. "He's been nearly forty years in Luna City. He was born in a little village in Austria. Halfway up a mountain, with pines all round and snow on them in winter. You know. He gets homesick."

"Why doesn't he come back, Major Davies?"

It's always a shock when people show how little they know about the life you lead, though I suppose you can't blame them. The exciting parts are news—spacewrecks and crashes and mad orbits—but the routine's dull. I suppose there are some things the company doesn't pass on to Publicity. Not that there's anything they're ashamed of—they just don't talk about such things.

"Mr. Cliff," I said, "the doctors have it all tabbed. It's what they call cumulative stress. You can't bring a boat in or push

her off without an initial strain. It varies with the planets, of course. For Earth, with an average sized vessel, the peak's about five or six gravities."

I flexed my shoulders back, breathing this different air.

"You've got to be tough physically," I went on, "but even so it tells. It's the heart chiefly. They give you a warning when it begins to flicker; you can drop out then with a pension. Of course there are some who can carry on. They're used to the life, and—"

"And—?" prompted Mr. Cliff.

"There's a final warning as well. They check up on you after each trip; vet you for the next. Then one time it's just plain No. You can argue, but the answer's No. Another take-off would finish you. So they say. There's no way of testing it; they just don't let you on a boat after that."

"They're very considerate, Major Davies."

I laughed. "Oh, very. The only thing is—they check you each landfall. Hans got his final warning at Luna City."

"Oh." Mr. Cliff bent his head to smell the red rose in his coat. "How long ago did you say?"

"Hans is an old man. Over seventy. Generally you get your first warning when you are about thirty."

"And how big is this Luna City?"

"That's easy," I said. "It's in the guide books. A couple of blocks long by a block wide. It goes underground a bit as well."

"That's terrible, Major Davies. Forty years like that. No trees, no birds— And young men know that and still take the risk? I can't believe it."

It was an old story but I'd never felt myself getting so mad about it before. I reined myself in. He was a nice old guy.

"You don't understand, Mr. Cliff. There's something in the life. And sometimes there's more than five years between first and final warnings. One guy went ten. There's always one more trip that's worth making before you settle down for good. They don't recruit spacemen who give up easily. And you may always strike lucky and get your ticket at this end."

"When did you get your first warning, Major Davies?"

I flushed. "Three years ago. So what? Now this matter of the Christmas tree, Mr. Cliff—"

"I'll show you. The Christmas tree is on me. Please."

He led me away to show me the fir trees, and the scent of roses gave way to a rich piney smell that made me remember being a kid, and holidays up in the lakes. Mr. Cliff finally broke the silence:

"I've been thinking, Major Davies. I've got a proposition that may interest you—"

I didn't see Louie when the tree went on board; one of his boys handled it. There wasn't a sign of any of the company police around, and I guessed Louie was distracting them with a friendly game of poker. Skinning 'em too, if I knew Louie. I didn't see him until the end of my second shift on the trip. The radar screen was a beautiful blank; it was a clear season for meteors. Louie was lolling in front of it reading a book.

"Louie, I always knew I slipped up when I majored in Nav. Do they pay you for this?"

Sometimes there's ill feeling about the large stretches of easy time radar-ops manage to corner, but Louie knew I'd been in space too long for that. Until the automatic relays smarten up a lot there's got to be a man on the screen. And the company doesn't give time away; the radar section handle the quartermastering, too. Every third furlough they lose two days.

Louie grinned. "I've got a weak heart. Didn't you know?"

I tossed him a cigarette. "Thanks for getting baby on board. What did you throw out—gold bars?"

He shook his head. "Just my own brand of math. If that orbit you've laid us turns out bad enough, we'll hit the sun approximately ten minutes sooner than we would otherwise. And I've got to pep my metor deflection up by three thousandths of a second. It's a big risk."

"My orbit's good," I said. "I'll never lay one better. Next trip I'm going to lay the tightest Moon-Earth orbit since Christiansen came in on the Leonids. After that you needn't worry about my failing eyes, Louie."

"I'm glad, Joe. I always knew you had sense. I'm dropping out the moment they give me a hint. It's not worth it."

"Yes, Louie, I'm really going."

"You'll miss it, Joe, but you'll get over that. You'd have to anyway before long."

"It's out in the country, Louie. A nursery. Growing plants,

all kinds of plants. Fir trees and chrysanthemums and daffodils —and roses at Christmas. And the moon's no more than something you plant by. I shan't miss anything."

"You're lucky, Joe. That's what it is—you're lucky."

We cushioned at three G's and I felt it again; a long ache inside my chest as though my heart and lungs were tied up with strings and someone was twisting them nice and slowly. It was all right after a few minutes and I got up, light and active under Moon gravity. I wasted no time getting through the main lock. I looked for old Hans amongst those who stood by, but there was no sign of him. I called Portugese, who runs the grog shop.

"Portugese! Where's Hans? I've got something for him."

He came waddling over. With a bulk like his I could almost understand why he had chosen Luna City. He shrugged, lifting everything—hands, shoulders and eyebrows.

"Too late now," he said. "He died just after nightfall. We're taking him out in a few hours."

In Luna City there are no extras. You don't waste anything that has to be freighted a quarter of a million miles; and that includes oxygen. When men die there, their bodies are kept until nightfall when, for three hundred and thirty-six hours, darkness freezes into rime the last traces of the Moon's atmosphere. Some time during the night the body is taken out in a caterpillar and committed, with duly economical rites, to some cleft in the antique rocks. With the sunrise the thin air melts, the gray lichen runs like a sickness along the crater bottoms, and in that microscopic jungle the minute lunar insects awaken to fight battles as real as Tyrannosaurus ever knew. Long before the crater shadows lengthen towards sunset the cleft is empty again. No flesh, no hair, no scrap of bone escapes them.

Portugese drove the caterpillar out through the air lock. Louie and I sat behind him with old Hans' body, covered by a sheet, on the floor between us. We were silent while the little truck jolted on its metal tracks across granite and pumice and frozen lava. And I don't think it was the death inside that silenced us; we had liked old Hans but he had had his time, and was released now to infinity from the narrow confines of Luna City. It was the death outside that quieted us, as it quiets any

man who goes out among those age-old crests and pinnacles, under those glaring stars.

Portugese halted the caterpillar on the crest of a rise about midway between Luna City and Kelly's Crater. It was the usual burial ground; the planet's surface here was crosshatched in deep grooves by some age-old catastrophe. We clamped down the visors on our suits and got out. Portugese and I carried old Hans easily between us, his frail body fantastically light against lunar gravity. We put him down carefully in a wide, deep cleft, and I turned round towards the truck. Louie walked towards us, carrying the Christmas tree. There had been moisture on it which had frozen instantly into sparkling frost. It looked like a centerpiece out of a store window. It had seemed a good idea back in Luna City, but now it didn't seem appropriate.

We wedged it in with rocks, Portugese read a prayer, and we walked back to the caterpillar, glad to be able to let our visors down again and light up cigarettes. We stayed there while we smoked, looking through the front screen. The tree stood up green and white against the sullen, hunching blackness of Kelly's Crater. Right overhead was the Earth, glowing with daylight. I could make out Italy, clear and unsmudged, but farther north Hans' beloved Austria was hidden under blotching December cloud.

We didn't say anything. Portugese squeezed out his cigarette and started the caterpillar up, turning her round again towards Luna City. We ran into B lock, and Portugese stabled the truck and came out again to join us. He put his fat arms around our shoulders.

"Come on, boys. Always a drink on the house after a burying party."

"Medical first, Portugese," Louie said. "We'll look in afterwards. Keep the rum hot for us."

We saw him glide away, and turned back ourselves towards the Administration Building. The others had been through the Medical while we were out, and we had a doctor each without any waiting. We sat in the anteroom afterwards, waiting for them to write our cards up before we could collect them. At last the call came through on the speaker:

"Major Davies. Lieutenant Enderby. Cards ready now."

Louie got his first. He looked at the big blue stamp on the front—FIRST WARNING. He grinned.

"We'll go out in harness, Joe. Any chance of a third partnership in that flower business?"

I didn't say anything. I could see my card before the doctor gave it to me. I saw the red star splashed on it, and I'd seen too many of them not to know what it meant. It was the mark of the exile, the outlaw who had waited too long to get out. It was the beginning of such a story as the one whose end, forty years later, I had witnessed in the lee of Kelly's Crater under the mocking globe of Earth.

"This is my last trip," I told the doctor. "When we hit Antwerp I'm retiring."

He shook his head. "I'm sorry."

"I don't care if it's a million-to-one chance, Doc. I'll take it; and no hard feelings if it doesn't come off. I'll sign any disclaimer the company wants."

"It's no good, major. You know the regulations. These things are too foolproof now. We're not allowed to let you commit suicide."

I knew it was no good, too. Louie had gone. We all knew better than to stick around when someone got the red star. I had time to look at the doctor. He was very young and didn't look very happy. I guessed he hadn't handed out a star before.

"It could be worse, major. It could have been Phobos."

From the top level in Luna City you can see the sky; at night the stars and the softly glowing Earth. Down to the west Sirius blazes over Kelly's Crater. I've been up here for hours watching them.

I keep thinking I can smell roses.

The Forgiveness of Tenchu Taen

BY FREDERICK ARNOLD KUMMER, JR.

TO THE CASUAL sight-seeing tourist, Mercis, capital of Mars, is a marble definition of the word "beauty." Its stately white buildings, its green lawns dotted with clumps of flaming *fayeh* blossoms, its network of crystal-clear canals, make it a garden spot in the eternal, dusty-red plain. And when you add bottle-lined Terrestrial bars, gondolalike boats manned by soft-singing little native boatmen, and exclusive, highly priced shops, the result is a veritable mecca for the wealthy spacetrotter. Even the bored dilettante, seeking the somewhat nebulous higher things in life, can find a haven in the Tolar Quarter, where appropriately hungry-looking artists, seated in the doorways of appropriately quaint houses, offer endless salmon-colored landscapes to the would-be patrons of art. Whatever your inclination, the canny little Martians can cater to it, for they overlook no item, however small, in their eternal game of exchanging cheap articles and pleasant memories for Terrestrial cash.

Yet in addition to this brilliant, gay city, there is another Mercis, unsought by, unknown to tourists. Far from the marble splendor of the big passenger port where the sleek luxury liners glide to the ground, there are the cargo docks, with their battered tramps, their rusty freighters, and plain, blunt-nosed vessels surrounded by a maze of gaunt cranes, cargo lifts, and gray storage tanks. And about the cargo port, like scum on the sides of a bubbling caldron, lies the Olech, dark and shadowy. Rows of drab, huddled houses; worn, grimy glass streets; stinking, rubbish-littered arms of the great canals. Dull, crystaloid walls made all the more hideous by tattered remains of posters; lean slinking *molats*, the six-legged tailless Martian hounds; ragged urchins and whining beggars, who, for a price, deliver

questionable messages or obtain even more questionable information.

Here in the Olech, squat Jovian spacehands rub shoulders with languid Venusian traders; dark Mercurians drink with the dâk-men of Neptune; and tall Terrestrials swagger contemptuously through the crowds of "reddies," copper-skinned sons of Mars. Above the babel of a hundred polyglot tongues one can hear the sibilant hissing of the Martian dialects. Like flitting shadows the little reddies, clad in their long, loose dust-robes, glide along the crooked streets, mysterious, inscrutable.

Within the blank-faced houses of Ki Street, behind the busy stalls of the Space-Market, the old Martian religion carries on its dark and bloody rites, defying alike the Imperial Decree and the Interplanetary Covenant. Among clouds of forbidden, hysteria-provoking incense, the priests, their faces ruddy in the light of the ancient ceremonial lamps, offer the mutilated bodies of their victims to the great hungry black thing which, at the sound of the third bell, appears above the altars. A hypnotic manifestation, Terrestrial skeptics call it; but to the true believers it is Yonan, God of Gods, Lord of Terrors, Master of Magic.

Here, too, from behind the lattices of the so-called "Amen Alley," tiny, doll-like Martian girls smile appraisingly at passers-by and hawk-faced dopesters offer sure tips on the monthly space-races. At night, when the twin moons peer like two tiny baleful eyes from the heavens, and the sallow light from the little shops makes orange oblongs on the narrow streets, you can hear the pulse of multiphone music, throbbing, moaning, as though teetering on the borderline between pleasure and pain. And above the music can be heard the excited muttering of the reddies as, crowded about the great glassex globes within which the green fungoid spores struggle for supremacy, they bet with fatalistic recklessness, knowing full well that, by the Law of the Olech, the bodies of welshers are found within twelve hours floating on the dark waters of the Han Canal.

Perhaps there is no more famous place of chance than that belonging to Tenchu Taen. Here, the draperies are pure cellosilk and the tables inlaid with gold; fiery *tong* and cloudy *olo* are yours for the asking, since, Tenchu argues, liquor dulls the play-

ers' wits and so increases the house's profits. Here the air is heavy with the smoke of a dozen narcotics, and the eager voices of the little reddies clash in a harsh cacophony of sound. At the head of the long central table sits Tenchu, sharp-eyed, tense, motionless, a bland god of fortune, droning his monotonous exhortation. "Place your bets! Place your bets! *Ai . . . eee!* The struggle commences!" And within his round, hairless head he keeps a hundred bets, a hundred shifting odds. Keeps them so unerringly that the most hardened gambler will take Tenchu's casual word to another man's oath.

Yet apart from the scores who crowd about the gleaming glassex globes, there are those who, like Johnny Greer, seek the house of Tenchu for another reason. That reason is Eyehla.

Directly behind Tenchu there is a green curtain. And at regular intervals throughout the evening he will pick up his pile of winnings—to leave the money on the table is considered bad taste, boasting—and carry it through the entrance to the room beyond. It is in these brief moments when the curtain is swept aside that those who come to see Eyehla are rewarded. A fleeting glimpse, no more, of an invitingly small mouth, of high cheekbones, of sleek black hair wound tiara-fashion about her head. Her skin, defying the traditional rusty-red, glows like soft rose petals. She is, somehow, like a painted porcelain princess.

It is not so long ago that Eyehla had more than mere beauty. Beneath her placid Martian loveliness there was a young and eager vivacity, a joyousness quite out of keeping with her strict Martian upbringing. Two opposing philosophies, tugging at the girl, created unbalance, a fierce inner tension. In the streets, in the market place, she saw the tall, long-striding Earthmen, voyagers of space who had brought to decadent Mars a new energy, an adventurous, exciting scheme of things. Their vigor and vitality thrilled Eyehla; she wanted to be a part of it, to break the ancient rules and traditions that bound her life. Within the walls of her home there was only ritual, meek servility. Women, her father used to say, were slaves of the three obediences—obedience in childhood to their fathers, in marriage to their husbands, in widowhood to their sons.

At the age of nineteen, by Terrestrial reckoning, Eyehla entered submissively upon the second obedience, to find herself virtually a prisoner in the back room of the gaming house, sort-

ing a heterogeneous harvest of Martian *thaels*, Terrestrial dollars, Jovian *solts*, and listening to the dry voice of her husband, Tenchu Taen, as he quoted his interminable odds. A dull, unromantic existence; yet if not happy, Eyehla was still by no means miserable.

It would be difficult to compare Johnny Greer with anything of Mars. There was nothing tender or delicate about him. He was, in fact, as hard as tempered *ixite*. More, his presence in the Olech seemed something of a mystery to the silent, observant reddies. Crisp-voiced, brittle-eyed young Terrestrials were not in the habit of burying themselves in the stench and squalor of the cargo ports. Naavic, the genial Ki Street spice merchant, remarked that there was a peculiarly shaped bulge beneath Johnny's left armpit, a bulge which might readily have been made by a shoulder-holstered heat gun. The police, Naavic went on, were looking for the Terrestrial gunman who had recently robbed a Psidian jewel merchant and shot down a bystander in making his getaway. Therefore Johnny——

"A youth should always be regarded with respect. How do we know that his future may not be superior to our present?" Tenchu had answered ponderously. And since Taen was a person of great wealth and authority, the reddies accepted Johnny Greer at his face value.

It was inevitable, of course, that Johnny should fall a victim of Eyehla's slim perfection. The wistfulness of her, the childish gravity of her smile, were new to him, filled him with chivalrous —if not altogether altruistic—dreams of rescuing her from the solemn Tenchu. And because Johnny was young, handsome, Eyehla also dreamed—dreams in which he was the central figure. So, although they had spoken hardly a dozen words, tinderlike thoughts filled her mind, ready at any moment to burst into violent flame.

The tinder caught one stifling summer night. It was the Festival of the Two Moons, the most ancient of Martian holidays, and the Olech blazed with lights. Spacemen of every planet, reddies in their finest robes, dark desert men from the burning plains of Psidis, mingling in a kaleidoscope of color. The Space Market echoed with the chatter and laughter of the crowd, the shrieks of children, the raucous shouts of the liquor-venders,

the blaring music of an imported Terrestrial band. The shuffle of myriad feet, the purring of canal-cabs, the *slap-slap-slap* of the waves in their wake. Smells of cheap food, fresh *gaahl* roots, roasting *reth*-fowl, tainting the clean, thin air. Faces, dull faces, grinning faces, sad faces, lurid in the greenish light of the *radite* arc lamps. A torrent of life, caught in the carnival spirit and swept aimlessly along the twisting streets toward a phantom destination.

In the tiny apartment behind the gambling room, Eyehla bent over the table, sorting a heap of change into small, neat piles. The doorway leading to the street was open to admit a breath of air, and Eyehla, aware of the coarse, blatant crowds that choked the town, shuddered. She felt hemmed in, crushed by the weight of their personalities. Through the thin green curtain that hung in the entrance between the room and the gambling hall, she could hear Tenchu's unvarying chant: "Place your bets! Place your bets! *Ai . . . eee!* The struggle commences!" And always the ceaseless jingle of money, the eager shouts of the spectators. Eyehla's fingers tightened until her nails bit into her palms. If only someone like——

"You are very lovely," said Johnny Greer softly.

Eyehla glanced up, confused, as one surprised in a secret dream. He was standing in the doorway, slim, carelessly handsome. His eyes, fixed on her face, were like bits of glittering blue *thorene.*

"Johnny Greer! You must not say that!" Her glance flickered toward the curtain. "I—I have work to do!"

"Work!" he whispered. "Work is not for you. You should be a queen with a thousand slaves to wait upon you." The liquid Martian syllables came haltingly to Johnny's Terrestrial lips. "You are a *fayeh* blossom. The foul breath of the old man will wither you."

Eyehla stared at him, swaying slightly. A chance to break away from the eternal obedience, to be free like Earth women! *They* selected the men they wanted, without regard to parental orders. Here was a man, young, good-looking, ready to grant her slightest wish, to live for her pleasure. And so strong, so completely able to protect her from the merciless conventions of Mars. Eyehla thought of Tenchu, solemn, grave, maddeningly

deliberate. His emotionless mien, his elaborate rituals, his dull, long-winded discussions. A sudden flare of rebellion gripped her. An opportunity to break those musty laws and traditions that had forced her into this marriage, to know the liberty of the people of Terra! She had the right——

Tenchu's voice in the gambling room outside resumed its sing-song drone. Eyehla cowered at the sound of it.

"Go," she whispered. "Go away!"

Johnny Greer did not go. He stepped forward, gripped her arm. Eyehla trembled. The look in his eyes, the strength of his fingers——

"You will leave with me tonight," he murmured. "Leave all this. Away from people, from work, from—ugliness. Just we two——"

The sickening reek of cheap *tong* drifted through the doorway. Harsh voices, drunken laughter. Sand gritted beneath Johnny's feet. Eyehla tried to think. Earth, so they said, was fresh and green and beautiful. No stinking canals or hot, sandy deserts. But her husband——

Johnny drew her closer. The brave free life of her dreams seemed very near, and Tenchu's chant suddenly far-away. Her tense body went limp under the Earthman's gripping fingers.

"Johnny——"

"Tenchu will keep the place open late tonight. He will be too busy to notice if you leave. I'll wait for you at the old space-beacon on the plain outside the city." He glanced at the heap of money on the table. "How much is there?"

"Nearly a thousand *thaels*. This is our biggest night. The Festival of the Two Moons——" Remembering old Naavic's earlier suspicions, her face went pale.

"Good. Bring it."

"No. No!" Her throat was suddenly dry. "That's stealing——" Spots of tarnish were beginning to appear on Johnny's shining armor.

"Listen, it's just a loan. I'm short of cash right now. We'll need it to get away. I can send it back soon—as soon as we reach Terra." He swept her into his arms, kissed her. "Be at the space-beacon about eleven. We can reach Psidis by dawn, get a ship there for Earth. You'll come?" The question of money brought an added insistence to Johnny's pleadings.

Eyehla swayed under the sweet sting of a dream. Nothing was very clear except that she was going to leave the Olech—leave Tenchu and his dry quotations, his stodgy friends, his relentless customs. Tenchu had not loved her—not as she imagined love. Johnny promised all she had hoped for. Love. Romance, instead of obedience. The beauties of the green, verdant Terra.

"At eleven." She clung to him tightly in a last furious embrace. "Now go. Go!"

In the gambling room outside, Tenchu, his face set in a crinkly automatic smile, raked in a stack of money. "Good fortune attend your future wagers! *Ai . . . eee!* Place your bets!" That also was automatic. He was not even conscious of having spoken. His back to the curtains, he gazed blandly at the crowd, giving no hint of the cruel talons that tore at his heart. Where an Earthling might have acted impetuously, Tenchu, following the baffling logic of the red planet, began to reason to seek a solution. Eyehla talking to Johnny Greer, believing that he was too busy to listen to what they said. As if, after so many years, the noise of the crowd made any impression on his ears! Johnny Greer touching his wife with eager fingers, holding her in his arms! Someone's life would have to——

Tenchu changed a ten *thael* note for a gray-uniformed spaceman. "Try your luck! Place your bets!" He glanced at Johl, his assistant, standing at the other end of the table. Johl could not have heard—nor any of the others, with their attention focused on the writhing, twisting spores. Perhaps, if he acted quickly, no one would learn of his shame. Eyehla should be punished. But she was so beautiful—— It was a difficult matter to decide. The Terrestrial had spoken of love. So did many of his kind—on Mars. Back on Earth the scorn of their friends quickly made them abandon the red-skinned "natives."

"Johl!" Tenchu called, turning toward the green curtain. "Take care of the customers. I shall return later."

He went into the back room. Eyehla, seated motionless at the table, spun about guiltily as he entered.

"You seem startled, *matana*," he murmured impassively. "Is anything wrong?"

"Nothing, my husband." Her eyes remained fixed on the stacks of money.

"Good." Tenchu nodded gravely, passed a hand over her sleek black hair. "I must go to see Naavic on business. I shall not return until after midnight." He took his long dust-robe from the closet, picked up a small black object that lay on the shelf and dropped it into his pocket.

Midnight! Eyehla fought back a wave of exultation. Easy for her to get away, meet Johnny, now! And by the time Tenchu had returned, they would be far away, on the route to Psidis. Yattic, god of good fortune, smiled.

"Watch the money carefully," Tenchu said, moving toward the door. "Until later, my Eyehla."

Without turning to note her expression, he strode through the doorway into the narrow side street and along it to the house of Naavic, the spice-merchant. Old Naavic, his round red face gleaming, seemed surprised by this late visit.

"Come in," he smiled. "I am just finishing some special work." As though to prove the point, he bent over his desk, began checking down a long bill of lading.

Tenchu stood watching him. He liked the smell of the little shop, the warm odor of Jovian *teel*, the clean fragrance of Venusian *zoth*. Sweet and fresh—like Eyehla. Such a silly child she was——

"I am worried," Tenchu said slowly.

"The burden of worry is more easily borne by two," Naavic observed absently.

"What would you do," Tenchu went on, "if you discovered your wife to be unfaithful?"

"Eh?" Naavic looked up, grinning at the thought of his fat, homely spouse being untrue. "I should offer her my sincere congratulations!" He laughed, wheezingly. "Why do you ask?"

Tenchu leaned back in his chair, toyed with the glittering *solene* luck charm that hung about his neck. When he at last spoke, his voice was like the rustling of sheer cellosilk.

"I have learned," he murmured, "that a—a friend of mine is being deceived by his wife. Yet I hesitated to tell him for fear he may kill her."

"Kill her?" Naavic repeated. "If he does not value the woman,

then why should he care? There are many more in the slave marts of Santu. And if he does value her, why deprive himself of her charms?"

"True." Tenchu nodded. "But surely this husband will kill the lover?"

"That would show little wisdom." Naavic replied, shaking his head. "Even if he should escape the police, his wife would always regard him as a murderer and mourn the martyred one who gave his life for her."

"Then," Tenchu muttered impatiently, "what will this husband do?"

"If he is wise, he will forgive his wife, thus increasing himself in her eyes and belittling the lover who, shamed, will depart."

"Ha!" Tenchu stood for a moment in silence, stroking his chin. "It may be that you are right. I shall tell this husband to offer forgiveness—at the proper time."

Naavic stuffed his long pipe with coarse black *shole*. "Do I know these people of whom you speak?" he asked casually.

"No." Tenchu shook his head. "Health and happiness, Naavic. You have spoken with great wisdom."

Leaving the little spice-shop, Tenchu glided like a soft shadow through the narrow streets. Along Ixtan Way, with its grimy signs in twisted Martian characters, its tumble-down houses, pitted and eroded by the howling red sandstorms from the desert. Past the Space-Market where, in the brilliantly lighted bazaars, sharp-faced merchants haggled over their wares. Beggars whining wearily; soft voices calling from behind ornate lattices; and those who live by darkness creeping out of black doorways to people the night with vague, living ghosts. An occasional ship, out-going or in-coming, gave the dingy streets momentary splendor as its rocket-flare gilded them in ruddy gold.

Now Tenchu was following the Han Canal, filled to overflowing with melted ice from the polar cap. The dark waters were splashed with patches of light from windows, strewn with the reflection of the high, cool stars. Canal-cabs raced along its surface, sending up clouds of spray as they wheeled to avoid leisurely private boats, heavily laden cargo craft. At intersecting canals police whistles shrilled, silver spurts of sound in the darkness. Tenchu moved with impassive swiftness, his face a stolid mask.

After half an hour's walking he approached the raw, ragged edges of the Olech. A few scattered houses, a fringe of rank vegetation, and the desolate red plain stretched before him, barren, interminable. Here there was no road, no canals; only the wind-blown dunes broke the horizon. Tenchu stared across them at the old abandoned beacon, a gaunt tottering wreck against the savage purple sky. In the distance he could see the lights of Psidis, glowing faintly like a drop of phosphorus spilled on the desert.

Tenchu turned, headed toward the beacon. It was hard walking. The loose, dry sand gave beneath his feet, leaving shapeless impressions swiftly smoothed away by the wind. The dunes, fringed with sparse, tall grass, were like giant bald heads. Tiny stalk-eyed bats dipped and circled overhead. The wind sighed and the sand rustled softly. All at once Tenchu was standing beside the tall beacon. There was no sign of life about its crumbling girders. Tenchu nodded. He was early. Squatting in the shadow of the building, he waited.

Visions of Eyehla's slim young beauty danced before his eyes, brought a choking sensation to his throat. She was foolish, yes, but so lovely. Naavic had been right—there was only forgiveness.

The indistinct outline of a tall, swift-striding figure brought Tenchu to his haunches. Humming to himself, Johnny Greer plodded toward the ruined structure. The venture, he had decided, promised to be both pleasant and profitable, as well as a great deal less risky than some of the other incidents of his highly colored career. Of course, it was still a bit dangerous to return to Earth, but by now the affair of the missing radium should have blown over sufficiently——

Crouched in the pool of darkness at the base of the beacon, Tenchu waited. The humming grew louder and Johnny Greer stepped into a patch of moonlight. He was carrying a small satchel in his right hand. Tenchu straightened up, smiling mildly.

"Tenchu!" The satchel fell from Johnny's hand. "What do you——"

Before he could finish the question, Tenchu stepped forward, drawing a small black object from beneath his robe. A pale, tenuous thread of light linked the two for a moment. Johnny

Greer's legs buckled under him; he sighed faintly, pitched forward to the ground.

For a bleak instant Tenchu stared at him, watched the thirsty sands soak up the trickle of blood. It was scarcely necessary for him to feel Johnny's wrist to know that there would be no pulse; the little proton gun had bored a neat, round hole in the Terrestrial's forehead. Tenchu nodded, began to rummage through the dead man's belongings. A cellosilk handkerchief, bearing the initials J. G., brought a satisfied smile to his face. He stuffed it into his pocket.

Turning from the body, Tenchu scooped a hole in the sand. His lean, curved fingers dug swiftly to form a shallow grave. When Johnny Greer had been thrust into it, with the satchel for a pillow, and the sand pushed back into place, Tenchu stood up, regarding his work reflectively. Little danger of the corpse being discovered. No one other than an occasional desert nomad ever visited the barren, wind-swept dunes. Tenchu, regarding the heavy little proton gun, smiled beatifically.

Some moments passed before he saw Eyehla walking briskly toward him. Tenchu drew a sharp breath at sight of her. In the dim, soft light her glossy hair seemed almost blue. There was a grace, a lilt to her walk that filled him with sudden fierce anger. So she was happy at the thought of leaving him for Johnny Greer! And that small sack, hanging heavily from her hand! His money! *Thaels,* dollars, *solts,* even rare *zetas* from Pluto! A thousand *thaels*—more! And she believed that Johnny Greer had wanted it only as a loan. She herself would have been only —a loan! Such a trusting little fool! Tenchu stooped low, hastily wrapping Johnny Greer's handkerchief about the butt of the proton gun.

Eyehla was quite near, now. He could see the glint of her yellow *solene* necklace, the scarlet of her lips against her rose-pink face. She approached the base of the building, glanced nervously about, still clutching the heavy sack.

With catlike softness Tenchu crept from the shadows. The sand deadened the sound of his approach. Now he was close behind her, his arm poised.

It was very quickly done. Eyehla slipped to the ground with-

out a murmur. Almost before she reached it, Tenchu was kneeling at her side. He smiled, noticing that she breathed regularly. The blow from the gun-butt, deadened by the handkerchief, had been light. Her skin had not even been broken. He would have to work quickly before she came to.

He unwound Johnny Greer's handkerchief from the gun, laid it on the sand beside her. With trembling fingers he removed her necklace, her rings, and, snatching up the sack of money, ran hurriedly toward the town.

Midnight was just blinking on the red time-signals when he entered the town. The Olech seemed strangely quiet. Gambling houses, taverns, the little latticed windows, had drawn the crowds into their nets. An occasional *tong*-sodden spacehand; a slinking, soft-footed *molat*; a stocky policeman leaning against a lamp-post—apart from these the streets were deserted.

Tenchu found his own establishment in full cry. Johl, at the head of the long table, was having difficulties in keeping track of the swift-changing odds. Shaking the sand from his clothes, Tenchu stepped into the little back room.

The apartment was just as he had left it. Eyehla had written no note of farewell. Tenchu placed the sack of money, the jewelry, in his strong-box, locked it securely. He was just pouring himself a glass of dark *olo* when he heard the dragging footsteps outside. The door swung open and Eyehla lurched into the room, her face gray with pain.

"Eyehla!" Tenchu ran to help her. "What has happened?" He glanced toward the adjoining bedroom. "I thought you were in there—asleep!"

"My husband!" She crumpled to the floor at his feet. "I have done a great wrong!"

"Eh, *matana*?" Tenchu murmured, blinking. "You——"

"I promised Johnny Greer to leave you—to run away with him." All the Terrestrialism, the spirit of rebellion, had fallen from Eyehla; she was now entirely Martian, meek, woebegone. "I took your money, went out to the desert to meet him. And" —her voice suddenly broke—"he struck me, from the shadows, stole the money and my necklace, my rings. I know, because of this handkerchief I found beside me—— I was a fool to believe such a man!"

"So." Tenchu's lean, strong hand caressed her cheek. "Do not blame yourself. You are young. The money is well spent if it has taught you wisdom."

Eyehla glanced up at him, unbelievingly. "You forgive me?" she whispered. "After what I have done?"

"Surely, *matana,*" he said gently. "The matter shall be forgotten. Forgiveness is ever the test of true love, aye, and the goal of the virtuous." Smiling benignly, Tenchu scraped the sand from beneath his fingernails.

Somewhere out in the sultry Martian night a rocket plane roared. The staccato coughing of its exhaust was like deep mocking laughter.

Episode on Dhee Minor

BY HARRY WALTON

INSIDE the low sheet-metal commissary building of the space post known on the Interplanetary Relations & Commerce Commission's roster as No. 291, Oliver Blakston grumbled within his air helmet—where, to be sure, there was nobody to hear him grumble but himself. All space-post factors grumbled, as a matter of traditional right. Besides, it helped to pass the time between customers, and when these number only a score of prospectors, a dozen Martian spore gatherers and looth wool shearers, and one aged, slightly senile fugitive from justice, there is plenty of time to pass.

"Why in the name of thirty Plutonian devils I stay here, I don't know. I've seniority enough to pick a dozen better posts. On colonies where you can breathe air that didn't come out of a can, and eat food that doesn't taste like it was dragged out of Old Faithful. This time," he swore, "I'm quitting. Six days more and I'm pulling out of this stinking sulphur hole—"

He'd said it before, he knew. He always asked himself the same question, arrived at the same decision, just before the monthly supply ship arrived. And when it did, inevitably he found too many things to clean up before he could leave, and would grumblingly announce that he had decided to stay "just one danged month more." Spacemen grinned when he said that. He'd stayed "one danged month more" for eight years now. But this time, so help him, he meant it.

One by one he polished the shiny little oxygen cylinders comprising the most important item of his trading stock, cursing all the while the tarnish and corrosion wrought by this alien atmosphere. A blend of nasty gases that smelled just as bad if lumped under one name—hydrogen sulphide. You smelled the characteristic rotten-egg odor thirty-two hours a day—and the day of Dhee Minor was just thirty-two hours long. The smell seeped through air conditioning and filtering systems, past double-seamed metal walls and lucite helmets, through rubber, cloth and glass. The atmosphere was poisonous, but the odor itself was demoralizing. It had been years since Blakston had seen a hen's egg, but he knew that never again would he be able to swallow a mouthful of one.

He grumbled about the smell, swore sulphurously at every spot of tarnish which he painstakingly rubbed bright. But his grumbling was automatic by now and had little to do with his thoughts. Mentally he was counting the full cylinders on hand, noting the number of empty returns, estimating what quantity he should stock of this article and that for trade throughout the coming month. He used no notes, made no errors. His mind was an orderly file that would empty itself of nonessentials the moment current orders had been filled.

Bending over the oxy-cylinders, he felt the scrape of the door being opened, heard the characteristic shuffle of an Ootlandah, and looked up to recognize Queel, a native of the planetoid and one of the reasons Blakston always stayed "one danged month more."

Properly speaking, this wasn't Queel. Queel had died six and a half minutes after Blakston first met him, six years ago. This was a remote descendant of that Queel, and a less remote descendant of the Queel Blakston had seen two days ago. Literally, Blakston had never laid eyes upon the Ootlandah who now

waddled into the commissary and stopped, quivering as though blown by an invisible breeze, before the long thurkwood counter.

The casual eye would have described Queel as a perambulating vegetable. An elongated oat grain, enormously magnified to the size of a small Earth man, would have looked like Queel —or like any other Ootlandah, for that matter. Spacemen marveled that Blakston could tell the natives apart. Queel was curiously bearded; his whiskers sprouted up from his waist and fringed his tiny, gourdlike head like the calyx of some fantastic blossom. He had two little eyes and a mere slit of mouth, yet so flexible were his internal organs that he could imitate human speech to a nicety, although in a reedy tone. Furthermore, hours spent listening to Blakston's reading of books, newspapers and space-post communications had given Queel an immense and sometimes startling vocabulary, which he enjoyed using in unique fashion.

"Queel the elder respectfully salutes you," chirped the native. The atmosphere carried the sound, and Blakston heard it well enough, for his helmet was fitted with air-tight sound diaphragms as well as the conventional radio communicator.

Blakston grunted amiably. "Queel the elder" was a stock phrase, indicating that the individual now present had lived out more than one half of his normal life span. It was a courtesy appreciated by Ootlandahs to acknowledge the information.

"For a can of apcots," Queel went on in a businesslike tone, "I have to exchange two large Keela-fungi. Is trade okey dokey?"

Blakston smacked his lips. A real treat at any time, Keela mushrooms were a delightful change from canned food. "Trade is done," he said gratefully, and walked out to find his part of the bargain, two enormous puffy parasols, lying beside the doorstep where Queel had left them. Blakston grinned at the characteristic pride of the Ootlandah, who had plainly carried them thus far, perhaps for miles, but who, for no amount of "apcots," would have let himself be seen in the act of burden.

Blakston brought the Keela in and shoved them into the desulphiding chamber to be ready for supper. He selected a large can of apricots, added, by way of bonus, a strip of tough licorice

from an air-tight glass jar, and passed both to Queel, whose whiskers quivered with delight at the gift.

"Am most thankful," he squeaked. "But regret imminent passing which you will have to witness— Look out!"

The warning was timely, and Blakston instantly made ready by whisking a handy cloth over the stock on the counter. The Ootlandah shook himself, his tiny green-rimmed eyes mournful. Then, with a sudden upheaval of energy and to the accompaniment of a sound much like a sneeze but signally more violent in effect, he shivered himself asunder. The oatman, whiskers and all, disintegrated to a fine dust that settled slowly to the floor. Blakston waited patiently for the miracle he had seen a hundred times but still found fascinating.

From the center of the little pile of yellow powder sprouted a small yellow pod, rapidly expanding like a toy balloon. Swiftly it assumed larger proportions, prickled with growing whiskers, grew reedy little legs with flapping pads of feet. Within sixty seconds there stood complete an exact replica of the deceased Queel. This explosive life cycle completed, the new born spoke.

"Queel the younger salutes you!"

Blakston again grunted acknowledgment. Queel the younger would find that sufficient, as his ancestors had before him. For this Queel possessed all the accumulated memories of hundreds of his direct forebears. For all his fragility—he weighed scarcely twenty pounds Earth gravity, and not a tenth of that on this tiny world—Queel was a triumph of evolution. He was, in his own way, immortal.

"There is news," continued the native. "Approaching from sunward is great looth. Beware, man friend!"

Blakston thanked him, inwardly smiling at Queel's melodramatic manner. But the warning was born of the Ootlandah's not unfounded fear of the genus *loothaguri*, which might be described as an acre of animal with but one characteristic—an appetite. The factor himself felt no anxiety at the approach of one of these weird creatures, for the space-post's electrical fences could turn aside a dozen of them.

Then came an apprehension that made Blakston wrinkle his nose in anticipation—the fear that the looth might get on the

cleared landing field and be crisped in the rocket blasts of the supply ship. That had happened once, and the odor of burned wool, feathers and flesh was still vivid in his memory; like the sulphide, it defied masks and air purifiers. During that month, more than ever before, he had come close to resigning his post.

He frowned therefore over this remote but ghastly possibility. Hard as it was to imagine the smelly air of Dhee Minor made more obnoxious, grim experience had proven it could be done. He decided to force the ship's crew to fence the landing field against such eventualities in the future.

"Having reason to depart," commented Queel, "shall now do so. But listen!"

Blakston listened, fuming at the necessity for air-tight sound diaphragms, which always muffled sound a bit and now kept him deaf to whatever had attracted Queel's attention.

"Is sound of ship landing," supplied that worthy. And indeed Blakston heard it almost that moment—the thin whistle set up by the ship's plunge into Dhee's atmosphere, the distant roar of its barking blast. He breathed a prayer that it might miss the looth.

"Funny," he said. "The supply ship's early—it's not due for six days."

"Is no supply ship," remarked Queel positively. Blakston frowned his doubt, yet his own ears promptly confirmed the Ootlandah. The supply ship's landing screech was of a different timbre, its rocket blasts heavier, more sonorous. Blakston tore his binoculars off their peg, ran outdoors, and leveled them on the sky just over the landing field. A faint streak of golden-red flame, dimmed by the hot globe of the sun, flashed across his field of vision. The ship was down, out of sight behind the forest fringe, where the sun itself would sink before many more minutes. Blakston went back inside.

Five minutes passed. For the third time he polished the long counter, patiently busied himself with rearranging the oxygen tanks. The visitors would come, he told himself. Anyone who landed on Dhee Minor would come first of all to the space post. It was not only common sense, but unchanging precedent. On the opposite side of the counter Queel waited also, forgotten

his announced intention of being off—for the Ootlandah was blessed with a huge share of human curiosity.

He stiffened, whiskers quivering, as footsteps thudded swiftly on the path outside. A man materialized suddenly on the threshold, bulky in spacesuit, huge in comparison to Blakston. A second figure appeared behind him, and both, after an instant's hesitation, entered the store. Blakston switched on his helmet phone, knowing that their suits would hardly be equipped with sound diaphragms, and offered routine greeting, to which both responded surlily.

"We're required to have a record of your landing," Blakston went on. "The I. R. C. C. requests all visitors to register. After that I'm at your service."

"Planetary patrol," growled the smaller man, flashing a badge on the back of one glove. "Official business. Get your men together and we'll explain it to the lot of you."

"Men?" Blakston laughed. "I'm all there is, so far as the space post goes. There are a few chaps running around out there. God knows where—"

The laugh faded before sudden, chilling suspicion. Planetary patrolmen, with a complete, space-post roster on board their ship, should *know* there was no staff at 291.

"That suits us!" An unpleasant grin overspread the gross features of the bigger man. "Makes it easier. All we want is oxygen and chow—lots of it and quick. Where is it?"

Blakston's glance switched to the smaller man, a dark, bushy-browed individual with a face as lean and pointed as an animal's. His hand snapped up, cradling the butt of a proton gun whose needle-slim barrel fell in line with Blakston's chest. "You heard him," he said. "Get the stuff." His flat voice was expressionless —and as deadly—as the warning burr of a rattlesnake.

Hot and cold chills of fury rippled down Blakston's spine. To be robbed—of oxygen! The law required him to give it free of charge to anybody who lacked means of payment, and that was one thing. But to be robbed of it at the point of a gun— He trembled with impotent rage as he selected two full cylinders and thumped them down upon the counter.

"Take them!" he said briefly, furiously. "Get out!"

The burly man guffawed. "He doesn't get the idea, Chet. You explain it while I show him—" He swept Blakston aside as

though brushing a beetle off his suit and began pawing through the stacks of cylinders, tossing empty ones to the floor, putting full ones on the counter, until the shelves were bare.

Blakston fumed at this treatment of his precious stock. Only the smaller man's proton gun kept him from assaulting the other.

"I gave you full ones," he gritted. "It's more than you deserve. Get out!"

"Aw, tell him, Chet," urged the big man as he worked. "Tell him we're taking all of them—"

All! The word dinned its fury and its import into Blakston's brain, an unbelievable and ghastly nightmare. To steal a single flask of the life-sustaining gas was the one crime blacker than murder on these airless worlds. Oxygen, out here, was the common currency of humanity, priceless as life itself. Even outlaws respected the unwritten law that exempted a man's oxygen from theft.

"Listen to me!" He made futile, clawing efforts to stop the giant, who was now strapping the full cylinders together. "The supply ship isn't due for a week—and there are men out there who'll be coming here for oxygen. Sometimes their tanks are almost empty; sometimes they're so far gone I have to hook the new tank on for them. That's what those flasks mean to them when—"

The giant shoved him sprawling, and began to load food into a burden net, clearing entire shelves at a sweep. The load was a tremendous one, yet no more than a strong man could carry, gravity on Dhee Minor being of the slightest.

Blakston turned to the smaller man. Whatever the two did, this one would dictate. But even as he spoke, Blakston felt the futility of any appeal to those merciless, reptile-cold eyes.

"Leave us four flasks at least—they'll do if the ship comes on time. Leave four, and I swear I won't say a word about you. But leave four—"

The giant grinned with evil humor, "You won't be needing no oxygen. We will. We aim to put a lot of room between us and Reinmuth before we shut off our jets."

Reinmuth! The word blasted all hope in one black instant. These were convicts, by some incredible chance escaped from the penal colony of that tiny planetoid. That was why they had

landed here, seeking food and oxygen to stock their stolen ship for a dash to the outer planets. Once beyond Jupiter, no patrol in space could lay a finger on them.

The smaller man cursed in that queer, toneless voice of his.

"Aw, what's the difference if he knows?" whined the giant. "I tell you the whole lousy space-pill will go like a fistful of dry hay. That red stuff out there is like gunpowder. We dip our rockets here and there when we pull out, and *nothing* can put out the fireworks."

An uncontrollable shudder swept Blakston. They meant to fire the planet! He knew of the disasters of '35 and '87—holocausts that had swept two thirds of this tiny world and left only blazing stubble and charred death in their wake. Meteors, red-hot from their fall through the atmosphere, had started those. The planetoid's thick growth of vegetation had done the rest—for living stuff, here on Dhee Minor, was built of inflammable oxygen compounds, as combustible as a match head and similarly carrying within itself the oxygen necessary to complete combustion. A fire of any kind was forbidden by law; food was precooked, or, here at the space post, electrically baked. The entire planetoid was a tinderbox.

The convicts' plan was simple enough—and perfect from their point of view, thought Blakston bitterly. They would create a tragedy here that would effectively cover their trail, sacrificing a world to gain their own ends. Safe in their ship, they had only to fly low and allow the flames from their ship's jets to touch a few tree fronds here and there. Set alight in three or four places, Dhee Minor this time would burn completely, a pitiful little star ablaze for a few hours—and forever after dead. The very atmosphere would burn once the oxygen released from burning vegetation made that possible. Martians and Earthmen and Ootlandahs, every living soul on the planetoid would be doomed—Queel's people even more swiftly than the others, for theirs was that same highly inflammable lifestuff so characteristic of this world.

All this sped through Blakston's mind in a moment, and it was as though it wound up a spring within him—a spring that snapped suddenly into furious action, as much out of his own control as though he were, for an instant, two individuals. He

leaped suddenly at the smaller man, knocked the deadly proton gun from his hand, and in a paroxysm of fury clawed at the convict's airsuit as though he could rip the fabric apart with his bare hands. With the advantages of surprise and weight, he might have downed his antagonist, had not huge hands grappled him from behind, closed viciously around his chest, dragged him struggling and kicking from his prey. He was jerked backward, pinned against the counter by a huge fist. The smaller man picked up his proton gun and leveled it—death in his stare.

"Is most evil to kill man friend," piped a voice suddenly. "Not to be allowed, I regret."

The convicts whirled upon Queel, whom they had ignored thus far, probably in the belief that he was some outlandish plant. The giant, recovering himself, laughed harshly.

"Hell—it's nothing but a native. He can't hurt us."

But the ferret-faced man, his nerves lashed raw, squeezed the trigger of his weapon. A proton blast whirled hotly from the gun's muzzle—a barrage capable of powdering steel plate at close range. Queel disintegrated instantly. Yellow dust drifted, settled swiftly to the floor.

Almost indifferently, Blakston felt himself being trussed to a ceiling post, his hands hastily tied together behind the rough timber. He wondered dully why they troubled to secure him instead of blasting him as they had Queel, but his mind refused to ponder the question. Instead a hundred irrelevant thoughts came to remind him of events long past, of the day he had met Queel, of the many favors they had done one another, of the strange but genuine comradeship which had grown between him and the native. So compelling were the memories evoked by the settling of that handful of yellow dust there on the thurkwood floor that he scarcely felt the convict's hands upon him.

A sense of strangulation, a dull thudding in his temples, the rattling suck of dead air in his throat, snatched him back to the present. The smaller man was gone, the giant even now leaving; he swore as he stumbled over a looth-shearer's crook that had fallen across the threshold during Blakston's scuffle with the other convict. Then he was gone, and Blakston faced the empty doorway, strangely blurred in his sight.

There was a mighty singing in his ears, and his breath was quick, furiously quick, but it brought him no air. And then he

knew why. His tank cock had been turned, the precious oxygen shut off from his helmet. Impossible for his hands, bound behind him as they were, to reach that all-important little handle just over his right shoulder. Even the strength to struggle was fast ebbing away from him; he was rapidly sinking into a coma from which there would be no awakening. Only as velvet fingers of blackness closed about him did that agonized retching for breath cease.

He came to his senses with a dull booming in his ears. His skull throbbed painfully, but there was air in his helmet and he gulped it in deep, gasping breaths. With returning memory came astonishment at finding himself alive.

He had been clumsily cut free; the cords still dangled from his wrists. Somebody had turned on the oxygen—the giant convict, perhaps? Instinctively Blakston glanced at his oxygen gauge. Less than an hour's supply was left him; small wonder they hadn't thought it worth while to snatch the almost-empty tank from him. An hour to live, to fight—or to die in.

His rate of breathing settled back to normal, but the hollow booming he had first heard on awakening grew louder. Suddenly he knew it for what it was—the ceremonial drums and tambourines of the Ootlandahs, used only in solemn, secret rites or in grave crises.

He stumbled to the doorway, almost tripped over the loothshearer's crook. Hesitating just an instant, he snatched it up, then ran out to stare down the steep trail that led from the commissary down to the landing field. The sky was already gray with dusk, the sun out of sight, yet a reddish glow lighted the sky ahead, and, as if to confirm its dread message, black smoke smudged the forest skyline. Fire!

Dhee Minor's death warrant was written in that flare of crimson light. The men from Reinmuth had kindled the forest while passing through it on their way to their ship. Blakston watched with thudding heart as a gigantic flame was sucked up into the sky, crimson as blood. Beside it another forest giant caught, blazed into a glory of green fire that writhed in virescent streamers heavenward. In Blakston's helmet surged a growing roar as that fiery surf gained in strength and volume.

He forsook the path in order to circle the burning area. Through the soft darkness of the forest, already flickering with

fantastic colored shadows, he ran. Emerging, he overlooked the well-cleared landing field, now starkly illuminated by the prismatic radiance of the blazing forest.

A ship lay there, lifeless and unguarded. The men from Reinmuth were nowhere visible, but farther along the forest fringe, outlined in red and green and purple of the flames, were perhaps a score of dancing, leaping Ootlandahs, tragic little clowns in motley of light and shadow. From them arose a faint hooting chorus, a thrumming of gourd drums which they beat above their heads with pipestem arms. Blakston started toward them, into the dark shadows directly ahead. Something brushed against his helmet.

A prehensile finger of flesh rose from the earth before him, a slender living rope that instantly whipped about his waist. A second questing tentacle almost wrenched the looth-shearer's crook from his hands. He lost his footing, screamed as the thing pulled him relentlessly into the blotch of blackness which he had mistaken for shadow.

The looth! He was being pulled under it, under that vast fleshy blanket where a million mouths waited—toothless mouths whose corrosive digestive juices could dissolve bone, gristle, rubber, metal and glass. Not a whole squadron of proton gunners could rescue him once he was under that suffocating mass.

His fingers tightened desperately upon the crook, found the switch and pressed it. A pale-blue electrical discharge appeared along the slender electrode. He swung it madly, lashing out against stubborn tentacles, scourging the senseless flesh of the creature with the one thing it feared and shrank from—a stinging but harmless high-tension current generated by a battery and induction coil in the handle of the crook.

Pseudopods fell away before the electrode, dropped him on the leafless stubble of ground over which the looth had fed. He lay there gasping, sobbing for breath, his chest a vast ache where the tentacle had coiled about him. It was fully a minute before he felt able to stand.

The looth had backed a few yards away by then, as he could tell by an occasional upflung pseudopod limned against the fire's glare. The thumpings and the hootings of Ootlandahs seemed redoubled, and he realized that they were standing their

ground, facing their traditional enemy at close quarters instead of fleeing from it as they were wont to do. But why, and under whose leadership, were the timid creatures defying the dreaded looth?

A human cry whirled Blakston about. From the forest, from a point midway between him and the Ootlandahs, it came. And then he saw the men from Reinmuth again, trapped there at the flaming forest's edge by that deadly living blockade which lay between them and their ship—the looth. That was the purpose of the drumming and the hooting—to keep the great beast where it was, a wall of living flesh against which even proton guns were helpless. But how, marveled Blakston, had the Ootlandahs grasped the situation, understood the danger of letting the convicts reach their ship, and so promptly acted to prevent it? The looth had been providentially near, but only genius had turned it to this purpose, only courage defeated the traditional terror all Ootlandahs had for the beasts.

Driven by fire behind, the convicts were running toward Blakston, intending to circle the looth and so reach the landing field. For a moment Blakston thought of intercepting them—and being blasted to death for his pains. He had no weapons—the crook was useless against proton guns. And once past the looth and in their ship, the convicts could set a dozen fires all over the planetoid.

They were still fifty yards away, sprawling and stumbling over brush and deadwood with their burdens of food and oxygen. Could he, wondered Blakston, reach the other "end" of the looth in time to join the Ootlandahs in forcing the ungainly beast back and keep it blocking the convicts' path?

He sprang forward, brandishing the crook as professional wool shearers did, opening a gap amid those questing tentacles. In one six-foot jump he gained the looth's back and scrambled away from the animal's side. The pseudopods could reach only a few feet back, forming as they did a fringe about the huge, squat body. Paradoxically, he was safer here than on the ground.

The looth's wool, prized in commerce, was thick and resilient underfoot, a carpet over a firm floor of flesh. He ran swiftly over it, toward the squealing Ootlandahs, who for all their noise were now slowly falling back before the looth's stolid advance. And

every foot of that retreat in turn shortened the distance that lay between the convicts and their ship.

But they, hampered by oxygen flasks and the burden net, made hard going of it through the dense underbrush. Blakston chuckled madly and plunged on. The looth, he observed, was no less than a hundred yards long and fifty wide—a little over an acre in size. It surged forward suddenly as a gust of wind blew the hot breath of the fire upon it. The Ootlandahs, who had been standing in a clear swath of ground that was the feeding trail of the beast, turned and fled.

Blakston cursed them, and, having reached the "end" of the beast, laid about him with the charged crook. Tentacles writhed and disappeared before it. He applied the electrode directly to the looth's back. Sparks snarled through the thick wool to the flesh beneath. The looth quivered, jerked blindly back from the stinging pain, reluctantly retreated to again bar the convicts' path. Blakston felt a thrill of savage satisfaction. Now let the murderers try to escape!

The smaller convict dropped his burden, ran back through the scrubby growth a little way, a grotesque gnome in the fantastic firelight. He stopped, rested his proton gun in a tree crotch for better aim. The narrow beam sheared past Blakston, followed an instant later by its characteristic miniature thunderclap. He laughed in reckless defiance, goaded the looth even more furiously. Small chance the man had of hitting him at this distance!

That was apparently the belief of the gunman, also, for his tactics changed abruptly. The proton beam crackled again, but this time its narrow streak of electrical flame seared a narrow welt across the looth's back. The huge beast shuddered, humped itself with a quick, convulsive movement, a sudden twitch like that of a horse's flank, but a thousandfold greater. Blakston felt as though the ground had reached up to hit his chin. He felt himself flying through space, falling, and tried desperately to twist in midair, to land without damaging his precious helmet.

He struck unyielding ground hard enough to knock every bit of breath from him, and lay half stunned for a time. His crook was gone, lost in that wild flight, and if the looth were to come upon him he would be in a bad case. On the heels of that thought he saw it, a wall of undulating tentacles, creeping down

upon him in that inexorable way it had. He got unsteadily to his feet.

"Am most grateful man friend is living," said a reedy voice behind him. He whirled in astonishment. In the light of the forest fire, Queel stood there, whiskers aquiver—and in one flipper of a hand he held the precious crook.

"Ability to hasten life cycle at will responsible for my continued existence," explained the native. "When evil character attempt murder, self beat him to it. After departure of criminals was just in time to save friend Blakston by opening helmet cock."

Blakston nodded gratefully, a lump in his throat. He could guess what it had cost Queel to turn that stiff little handle with his soft, flipperlike hands. Nor was it the first time he had heard that the Ootlandahs could hasten their demise at will when danger threatened. In times of famine, whole tribes often elected to stay in the nuclear, or egg, stage for long periods—so many little beanlike pods lying inert in the yellow dust of their dissolution—only to spring magically to life at some later time. But against fire even this strange ability could not protect them, for the eggs would explode like any other living tissue on Dhee Minor.

It was Queel, Blakston realized, who had gathered the Ootlandahs and conceived the amazing idea of blocking the convicts' path by driving the looth between them and their ship. The little native had acted with marvelous courage and incredible quickness, reaching Heaven knew what heights of rhetoric to induce his timid fellows to face the tentacled horror.

"Many thanks for your kindly aid," continued Queel sadly. "But is now common sense for you to save yourself while possible. My people have run away. Plot to use looth can no longer be used. Evil men's ship lies there, offering you swift escape from world that is soon to die. Take it quickly, man friend."

Blakston stared at him thoughtfully. The Ootlandah's suggestion, oddly enough, aroused nothing but horror in his mind —horror at a people's acceptance of extinction, as voiced by Queel. It seemed to him that the little native was watching him closely, questioningly. And yet, what he said was true. There lay the convicts' ship; Blakston could seal himself in it, take off safely and reach some neighboring space post. There was no

longer any need for him, at least, to share the death of Dhee Minor. And if he took off, the convicts would be irrevocably trapped, unable to set other fires on the planetoid. A part of Dhee Minor at least might be spared the flames.

The fire was, of course, spreading fiercely. Vegetation burned white and green and red and violet. Somewhere in the forest a chan-chan tree burst explosively, hurled aloft balls of crimson flame like an incredibly huge Roman candle. Above the general conflagration a feeble blue flicker of light hovered—the hydrogen sulphide of Dhee Minor's atmosphere burning in the surplus of oxygen released by blazing plants.

"I'm staying," said Blakston curtly, belying another and larger lump that had come into his throat. Leave now, desert this plucky little Ootlandah, he could not. "How about that plot you were talking about?"

Queel's whispers quivered with delight. "Is mere hopeful idea. Looth leaves dead trail no fire can cross. What if looth were driven around fire and cut it off from rest of world?"

It was, Blakston realized instantly, just possible that the scheme might work. The looth, feeding as it went, left a fifty-yard-wide swath of cleared ground in its wake. Directly behind the forest rose the equatorial mountain range, a barren backbone of rock which twice before in the history of the planetoid had acted as a firebreak. On this side the fire was already isolated by that hundred-and-fifty-foot gap the looth had left behind. On the other it would leap from the patch of forest to thick scrub brush and bramble thickets, and from there everywhere—unless the looth could be persuaded to devour that tangled growth which was the next link in the chain of disaster. But could the beast be driven that way, against the heat? Could a single man with a looth-shearer's crook, succeed where the drumming, hooting Ootlandahs had failed?

Blakston gave Queel his instructions. The native padded off and Blakston advanced upon the fringed bulk of looth, switching on the pale glow of the crook as he approached.

Again he whipped writhing tentacles aside, again leaped to the thing's broad back. The outlaws were not in sight. Probably they were trying another flanking movement through the brush, which must be getting pretty hot by now. But the growing fury

of the fire made his own task harder. The looth moved slowly under the electrical prodding of the crook. Blakston gauged direction carefully and urged on that vast, stubborn bulk of eyeless flesh by running here and there to apply the stinging current to best effect.

The red glare of strontium compounds, the green of barium, the violet of potassium, the rarer white of magnesium, cast a weird, striated light over the familiar landscape, a pyrotechnical display of ghastly beauty, fed by living tissue of leaf and branch —and perhaps by more animate forms of life. Over a mile-long front flame raged. Blakston estimated its advance and anxiously compared its speed with that of the looth. The conclusion he reached was alarming. He cut in a heavier current on the crook, knowing that the batteries would drain more quickly. But hotter sparks had the desired effect. The looth quickened its pace, leaving behind it a broad swath of denuded ground upon which everything combustible had been consumed—feeding as it went through sheer inability to stop feeding!

Chance might, of course, defeat him after all. A bursting chan-chan fruit thrown too far, a stray spark or blown straw, might carry the conflagration abroad. The outlaws themselves were still the deadliest menace of all. If they broke through Queel's cordon—if Queel *had* a cordon—and reached their ship, Dhee Minor would be ablaze in a dozen spots within the hour, on both sides of the equatorial range.

Two moving spots of flame caught Blakston's eyes, and resolved themselves into two men running from the forest. Each of the outlaws carried a blazing brand as defense against the looth. Blakston bit his lip. He had not considered the simple, daring strategy of fire—fire before which looth and Ootlandah alike must give way. As he watched, the bigger convict thrust flame against the outflung tentacles of Blakston's huge mount. The looth shuddered and retreated. Both convicts came on, gaining ground at each step as the beast fell back before their singeing brands. A ripple of pain went through it, hurling Blakston to his knees. If the looth itself caught fire, he knew, all hope was gone; fleeing from the flame death that rode its flesh, it would spread disaster irrevocably.

But its own sense of pain, and the less inflammable covering of thick wool that guarded its flesh, prevented that. When Blak-

ston had regained his feet the convicts were racing for their ship across the barren landing field. Nothing there, at least, for their torches to set alight, Blakston knew. Now it was up to Queel and his people to stop the outlaws, if they could, while he kept to his all-important task of circling the fire with his monstrous mount.

It grew increasingly stubborn, and he was forced to turn on more and more current in order to turn the recalcitrant beast into the sweep of the fire and goad it at last up to the very fringe of rocks, which it steadfastly refused to mount. But it had served its purpose. He raced to the side of the looth, swung the crook to clear its upflung pseudopods so that he might jump to the ground.

The tentacles did not waver. One of them seized the crook and almost yanked him off his feet. Helpless, he realized that the batteries in the thing had been exhausted. He was a prisoner on the looth's back! To try to jump through that living fringe of tentacles was tantamount to suicide.

On the landing field he spied two running figures armed with brands, encircled by a thin and futile line of Ootlandahs. A few threw gourds and stones. Twice a whirling *kfee*—the knife discus, made of native flint, which the Ootlandahs used to cut fruit down out of high trees—flashed close to the fleeing men. But constantly the natives retreated before those menacing brands. Faint thunderclaps of an occasional proton blast reached Blakston's ears. He desperately wanted to go to Queel's aid.

In that desperation he ran to the side of the looth nearest the fire, which was now burning down to the very edge of the denuded area. On this side the heat was greatest, and the animal was sluggishly drawing away from it. Its tentacles were erect, bent inward away from the withering heat. For a moment he almost gave up hope of breaking through that sentient wall, yet he realized that here was his only chance. The heat of the fire was his ally.

He crouched, tensely watching for a gap to open in the fringe of writhing tentacles. He jumped, the soft, yielding wool underfoot making his leap a clumsy one. The gap began to close, and he felt the hairy touch of pseudopods as he dropped.

He landed on his feet, stumbled, but rolled over and over out of the looth's range. A blazing limb crashed not a foot from his head. Smoking fronds fell on his legs. He brushed them off and sprang to his feet, and began running toward the landing field at a ridiculous but swift gallop. Had the convicts worn such a flexible airsuit as he had on, he thought grimly, they would long ago have reached the ship. But their heavy, stiff, pressure-proof space armor made such a gait impossible to them.

He was startled to see them scarcely a hundred yards from the vessel. The Ootlandahs were being driven back constantly; they delayed the convicts little, if at all. One native, boldly approaching the men to hurl his *kfee*, doubled over in pain as the bigger man thrust the brand against his body. The Ootlandah, hooting mournfully, became a briefly burning column of yellow flame.

Blakston put all his heart into a last burst of speed, fury seething in his veins. Let them fight man! Let them meet somebody who wasn't afraid of fire—or of their guns!

The smaller man saw him coming, jerked the proton gun up. Blakston heard its thunder, ducked, flung himself into a tackle that hurled the convict to the ground. But something tackled Blakston in turn. He felt himself lifted as the looth had lifted him, and turned around in midair to face his assailant. It was the other outlaw, the giant, still carrying in one huge fist the net with its tremendous load, and the torch with which he had fought past the looth. But with the other hand he held Blakston, shook him as a tiger shakes a hare.

The ferret-faced man struggled erect. The big outlaw dropped the net and reached for Blakston's airhose. Blakston smashed his fists numb against the man's space armor, but he felt the end to be near, and inevitable. One rip of those strong fingers would tear the hose; instead of oxygen, the poisonous atmosphere would seep into his helmet.

A *kfee* hurtled before his face. The spinning blade slit through the tough, flexible canvas joint between the convict's helmet and shoulder plate, but drew no blood. With the hand that still held the torch, instead of ripping Blakston's airhose, the man tore the flint disk free, mouthing curses.

Incredulously Blakston saw a puff of sullen blue flame blossom out over the rent in the canvas. Instantly a column of azure fire flared between him and the convict. The torch had set

Dhee's atmosphere afire where oxygen streamed from the man's spacesuit!

Blakston easily squirmed free as the other made futile, frantic efforts to beat out the flames. The canvas charred, the rent grew larger, and the column of fire thicker. Behind the helmet plate the convict's face worked in helpless terror.

The other convict turned briefly in his flight, saw what had happened, but sped on alone. With a bellow of pain and rage that faintly reached Blakston's ears, the giant lumbered after him, a living torch. The other turned, sent a proton blast stabbing wildly toward his late companion. Blakston also found his legs and joined in pursuing the smaller man, who had almost reached the ship. Beside the open air-lock port he paused to hurl his blazing torch full at Blakston.

It struck him on the knee, splintered into burning fragments that threatened to fire his suit. He brushed them off hastily, but that moment's delay wrought bitter havoc. The convict slipped into the air lock, and the ponderous door now swung slowly to behind him. It was all over, Blakston thought grimly. The man would take off, drop a blazing rocket stream into some other forest or brush, and Dhee Minor would blaze into a tiny starlet for a few hours and be no more.

But Blakston had forgotten the giant, who had never paused in that tortured, lumbering run of his, and was close to the ship. He hurled his flaming body at the air-lock port, gripped the thick stellite rim, and held on for life, as though he knew that only by getting into the ship, away from the planetoid's inflammable atmosphere could he cheat death. Blakston could hear him scream with pain as fire ate inexorably toward his flesh. But he held on doggedly. The other outlaw, inside the air lock, could not secure the port to its pressure-tight seat. Nor could he enter the ship proper, Blakston knew, for the inner and outer air-lock ports were interlocked, and only one could be opened at a time. It was a curious, fatal deadlock.

The man inside ended it. Suddenly he let the port swing wide, which threw the straining giant off balance. In the air lock stood the smaller convict, proton gun ready. Its thunder blasted once, twice—

Blakston's heart was pounding madly. All his being focused upon a rock lying providentially before him. He picked it up, aimed to a nicety, and let fly. There was a crunch as it struck a fragile helmet. The ferret-faced man fell out of the air lock into the giant's arms, and the bundle of oxygen flasks tumbled out with him.

Reason had departed the tortured body of the big man. He battered the other with maniacal fury. Blue flame roared between them, augmented by oxygen pouring from the smaller man's shattered helmet. And at last the giant tossed him aside, a limp, broken, blazing puppet.

Blakston felt sick. He saw that the giant was blind now, and felt a thrill almost of pity as the man lurched past the ship. The gross vitality in that huge frame carried him a dozen steps farther. Then his knees buckled and he pitched forward, slowly, like a felled tree.

Dimly Blakston was aware of a circle of Ootlandahs who had watched the end of things like so many silent ghosts. Dimly he knew there was something wrong with him, but his head was spinning madly, and even trying to think made it worse.

The oxy-cylinders flickered before his sight, seemed to pile themselves into fantastic, dwindling pyramids. And then he knew what was wrong. His tank was empty. He needed oxygen and he needed it quick. He staggered toward the tanks, slowly sank to his knees and crawled the rest of the way.

They were enormously heavy, and he could not lift them. With immense, clumsy fingers he strove to undo the buckles that held them together. Again there was a ringing in his ears and things were going dark.

What had he told the outlaws? That men sometimes staggered up to the space post so weak from lack of oxygen he had to attach flasks for them. And now he was that way. He had twenty flasks of oxygen, but not enough strength in his fingers to untie them and hook one to his airhose. It was almost funny, and the funniest thing was that he was too tired to care much. The buckles slipped out of his hands, and he knew there was no time to try again. Because even now he was sinking into that soft darkness where nothing mattered.

It was daylight and Queel was bending over him where he lay on the landing field. The Ootlandah hissed gently as Blakston opened his eyes.

"Must apologize for clumsiness of useless digits," said Queel, which was an overstatement because he had none. "Not intended for making tank connections, which mastered only after much trying."

Blakston grinned up at him. So Queel had saved him again. Good old Queel—

"Fire devil is dead," continued the Ootlandah. "For that, and because man friend is okey dokey, gratitude is unbounded."

Blakston nodded, satisfied. But Queel's eyes, green-rimmed and unutterably mournful, contracted suddenly.

"Regret imminent passing which— Look out!"

The native tensed, trembled violently, and sneezed himself asunder. Pale dust drifted where he had stood a moment before, and Blakston watched, fascinated, for that miracle of mushroom growth to occur. Seconds ticked past. From the mound of yellow dust a particle sprang up, danced madly as it grew with explosive violence.

Blakston sighed. His resignation from Space Post 291 was on file at I.R.C.C. headquarters. It was eight years old now, because he'd sent it in after his first month here, "to take effect one month from date." He saw now that it wouldn't do. He didn't want to leave Dhee Minor. Lonely? Sure. Smells? He was used to them. Friends? Enough—and not all of them wore air helmets.

Queel stood before him. Queel stood erect and quivering, and said, by rote: "Queel the younger salutes you."

And Blakston merely grunted. For a grunt, he knew, meant a lot between the two of them.

The Shape of Things

BY RAY BRADBURY

HE DID NOT WANT to be the father of a small blue pyramid. Peter Horn hadn't planned it that way at all. Neither he nor his wife imagined that such a thing could happen to them. They had talked quietly for days about the birth of their coming child, they had eaten normal foods, slept a great deal, taken in a few shows, and, when it was time for her to fly in the helicopter to the hospital, her husband, Peter Horn, laughed and kissed her.

"Honey, you'll be home in six hours," he said. "These new birth-mechanisms do everything but father the child for you."

She remembered an old-time song. "No, no, they can't take *that* away from me!" and sang it, and they laughed as the helicopter lifted them over the green way from country to city.

The doctor, a quiet gentleman named Wolcott, was very confident. Polly Ann, the wife, was made ready for the task ahead and the father was put, as usual, out in the waiting room where he could suck on cigarettes or take highballs from a convenient mixer. He was feeling pretty good. This was the first baby, but there was not a thing to worry about. Polly Ann was in good hands.

Dr. Wolcott came into the waiting room an hour later. He looked like a man who has seen death. Peter Horn, on his third highball, did not move. His hand tightened on the glass and he whispered:

"She's dead."

"No," said Wolcott, quietly. "No, no, she's fine. It's the baby."

"The baby's dead, then."

"The baby's alive, too, but—drink the rest of that drink and come along after me. Something's happened."

Yes, indeed, something had happened. The "something" that had happened had brought the entire hospital out into the corridors. People were going and coming from one room to another. As Peter Horn was led through a hallway where attendants in white uniforms were standing around peering into each other's faces and whispering, he became quite sick. The entire thing had the air of a carnival, as if at any moment someone might step up upon a platform and cry:

"Hey, looky looky! The child of Peter Horn! Incredible!"

They entered a small clean room. There was a crowd in the room, looking down at a low table. There was something on the table.

A small blue pyramid.

"Why've you brought me here?" said Horn, turning to the doctor.

The small blue pyramid moved. It began to cry.

Peter Horn pushed forward and looked down wildly. He was very white and he was breathing rapidly. "You don't mean that's it?"

The doctor named Wolcott nodded.

The blue pyramid had six blue snake-like appendages, and three eyes that blinked from the tips of projecting structures.

Horn didn't move.

"It weighs seven pounds, eight ounces," someone said.

Horn thought to himself, they're kidding me. This is some joke. Charlie Ruscoll is behind all this. He'll pop in a door any moment and cry "April Fool!" and everybody'll laugh. That's not my child. Oh, horrible! They're kidding me.

Horn stood there, and the sweat rolled down his face.

Dr. Wolcott said, quietly, "We didn't dare show your wife. The shock. She mustn't be told about it—now."

"Get me away from here." Horn turned and his hands were opening and closing without purpose, his eyes were flickering.

Wolcott held his elbow, talking calmly. "This is your child. Understand that, Mr. Horn."

"No. No, it's not." His mind wouldn't touch the thing. "It's a nightmare. Destroy the thing!"

"You can't kill a human being."

"Human?" Horn blinked tears. "That's not human! That's a crime against God!"

The doctor went on, quickly. "We've examined this—child—and we've decided that it is not a mutant, a result of gene destruction or rearrangement. It's not a freak. Nor is it sick. Please listen to everything I say to you."

Horn stared at the wall, his eyes wide and sick. He swayed. The doctor talked distantly, with assurance.

"The child was somehow affected by the birth pressure. There was a dimensional distructure caused by the simultaneous short-circuitings and malfunctionings of the new birth-mechs and the hypnosis machines. Well, anyway," the doctor ended lamely, "your baby was born into—another dimension."

Horn did not even nod. He stood there, waiting.

Dr. Wolcott made it emphatic. "Your child is alive, well, and happy. It is lying there, on the table. But because it was born into another dimension it has a shape alien to us. Our eyes, adjusted to a three dimensional concept, cannot recognize it as a baby. But it *is*. Underneath that camouflage, the strange pyramidal shape and appendages, it is *your* child."

Horn closed his mouth and shut his eyes and wanted to think. "Can I have a drink?" he asked.

"Certainly," said Wolcott. "Here." A drink was thrust into Horn's hands.

"Now, let me just sit down, sit down somewhere a moment." Horn sank wearily into a chair. It was coming clear. Everything shifted slowly into place. It was his child, no matter what. He shuddered. No matter how horrible it looked, it was his first child.

At last he looked up and tried to see the doctor. "What'll we tell Polly?" His voice was hardly a whisper. It was tired.

"We'll work that out this morning, as soon as you feel up to it."

"What happens after that? Is there any way to—change it back?"

"We'll try. That is, if you give us permission to try. After all, it's your child. You can do anything with him you want to do."

"Him?" Horn laughed ironically, shutting his eyes. "How do

you know it's a him?" He sank down into darkness. His ears roared.

Wolcott was visibly upset. "Why, we—that is—well, we don't know, for sure."

Horn drank more of his drink. "What if you *can't* change him back?"

"I realize what a shock it is to you, Mr. Horn. If you can't bear to look upon the child, we'll be glad to raise him here, at the Institute, for you."

Horn thought it over. "Thanks. But he's still my kid. He still belongs to me and Polly. I'll raise him. I'll give him a home. Raise him like I'd raise any kid. Give him a normal home life. Try to learn to love him. Treat him right." His lips were numb, he couldn't think.

"You realize what a job you're taking on, Mr. Horn? This child can't be allowed to have normal playmates, why, they'd pester it to death in no time. You know how children are. If you decide to raise the child at home, his life will be strictly regimented, he must *never* be seen by anyone. Is that clear?"

"Yeah. Yeah, it's clear. Doc. Doc, is he okay *mentally?*"

"Yes. We've tested his reactions. He's a fine healthy child as far as nervous response and such things go."

"I just wanted to be sure. Now, the only problem is Polly."

Wolcott frowned. "I confess that one has me stumped. You know it is pretty hard on a woman to hear that her child has been born dead. But *this,* telling a woman she's given birth to something not recognizable as human. It's not as clean as death. There's too much chance for shock. And yet I must tell her the truth. A doctor gets nowhere by lying to his patient."

Horn put his glass down. "I don't want to lose Polly, too. I'd be prepared now, if you destroyed the child, to take it. But I don't want Polly killed by the shock of this whole thing."

"I think we may be able to change the child back. That's the point which makes me hesitate. If I thought the case was hopeless I'd make out a certificate of euthanasia immediately. But it's at least worth a chance."

Horn was very tired. He was shivering quietly, deeply. "All right, doctor. It needs food, milk and love until you can fix it

up. It's had a raw deal so far, no reason for it to go on getting a raw deal. When will we tell Polly?"

"Tomorrow afternoon, when she wakes up."

Horn got up and walked to the table which was warmed by a soft illumination from overhead. The blue pyramid sat upon the table as Horn held out his hand.

"Hello, baby," said Horn.

The blue pyramid looked up at Horn with three bright blue eyes. It shifted a tiny blue tendril, touching Horn's fingers with it.

Horn shivered.

"Hello, baby."

The doctor produced a special feeding bottle.

"This is woman's milk. Here, baby."

Baby looked upward through clearing mists. Baby saw the shapes moving over him and knew them to be friendly. Baby was new-born, but already alert, strangely alert. Baby was aware.

There were moving objects above and around Baby. Six cubes of a gray-white color, bending down. Six cubes with hexagonal appendages and three eyes to each cube. Then there were two other cubes coming from a distance over a crystalline plateau. One of the cubes was white. It had three eyes, too. There was something about this White Cube that Baby liked. There was an attraction. Some relation. There was an odor to the White Cube that reminded Baby of itself.

Shrill sounds came from the six bending down gray-white cubes. Sounds of curiosity and wonder. It was like a kind of piccolo music, all playing at once.

Now the two newly arrived cubes, the White Cube, and the Gray Cube, were whistling. After awhile the White Cube extended one of his hexagonal appendages to touch Baby. Baby responded by putting out one of its tendrils from its pyramidal body. Baby liked the White Cube. Baby liked. Baby was hungry. Baby liked. Maybe the White Cube would give it food . . .

The Gray Cube produced a pink globe for Baby. Baby was now to be fed. Good. Good. Baby accepted food eagerly.

Food was good. All the gray-white cubes drifted away, leaving only the nice White Cube standing over Baby looking down and whistling over and over. Over and over.

They told Polly the next day. Not everything. Just enough. Just a hint. They told her the baby was not well, in a certain way. They talked slowly, and in ever tightening circles, in upon Polly. Then Dr. Wolcott gave a long lecture on the birth-mechanisms, how they helped a woman in her labor, and how the birth-mechs were put together, and how, this time, they short-circuited. There was another man of scientific means present and he gave her a dry little talk on dimensions, holding up his fingers, so! one two three and four. Still another man talked of energy and matter. Another spoke of underprivileged children.

Polly finally sat up in bed and said, "What's all the talk for? What's wrong with my baby that you should all be talking so long?"

Wolcott *told* her.

"Of course, you can wait a week and see it," he said. "Or you can sign over guardianship of the child to the Institute."

"There's only one thing I want to know," said Polly.

Dr. Wolcott raised his brows.

"Did I *make* the child that way?" asked Polly.

"You most certainly did *not!*"

"The child isn't a monster, genetically?" asked Polly.

"The child was thrust into another continuum. Otherwise, it is perfectly normal."

Polly's tight, lined mouth relaxed. She said, simply, "Then, bring me my baby. I want to see him. Please. Now."

They brought the "child."

The Horns left the hospital the next day. Polly walked out on her own two good legs, with Peter Horn following her, looking at her in quiet amaze.

They did not have the baby with them. That would come later. Horn helped his wife into their helicopter and sat beside her. He lifted the ship, whirring, into the warm air.

"You're a wonder," he said.

"Am I?" she said, lighting a cigarette.

"You are. You didn't cry. You didn't do anything."

"He's not so bad, you know," she said. "Once you get to know him. I can even—hold him in my arms. He's warm and he cries and he even needs his triangular diapers." Here she laughed. He

noticed a nervous tremor in the laugh, however. "No, I didn't cry, Pete, because that's my baby. Or he will be. He isn't dead, I thank God for that. He's—I don't know how to explain—still unborn. I like to think he hasn't been born yet. We're waiting for him to show up. I have confidence in Dr. Wolcott. Haven't you?"

"You're right. You're right." He reached over and held her hand. "You know something? You're a peach."

"I can hold on," she said, sitting there looking ahead as the green country swung under them. "I can wait. As long as I know something good will happen. I won't let it hurt or shock me. The mind is a great thing. If it has some hope, then it's cushioned all around. I'll wait six months," she said. And she looked over the edge of the helicopter. "And then maybe I'll kill myself."

"Polly!"

She looked at him as if he'd just come in. "Pete, I'm sorry. But this sort of thing doesn't happen. Once it's over and the baby is finally 'born' I'll forget it so quick it'll never have occurred. But if the doctor can't help us, then a mind can't take it, a mind can only tell the body to climb out on a roof and jump."

"Things'll be all right," he said, holding to the guide-wheel. "They *have* to be."

She said nothing, but let the cigarette smoke blow out of her mouth in the pounding concussion of the helicopter fan.

Three weeks passed. Every day they flew in to the Institute to visit "Py." For that was the quiet calm name that Polly Horn gave to the blue pyramid that lay on the warm sleeping-table and blinked up at them. Dr. Wolcott was careful to point out that the habits of the "child" were as normal as any others; so many hours sleep, so many awake, so much attentiveness, so much boredom, so much food, so much elimination. Polly Horn listened, and her face softened and her eyes warmed.

At the end of the third week, Dr. Wolcott said, "Feel up to taking him home now? You live in the country, don't you? All right, you have an enclosed patio, he can be out there in the sunlight, on occasion. He needs a mother's love. That's trite, but nevertheless true. He should be suckled. We have an arrangement where he's been fed by the new feed-mech; cooing

voice, warmth, hands, and all." Dr. Wolcott's voice was dry, "But still I feel you are familiar enough with him now to know he's a pretty healthy child. Are you game, Mrs. Horn?"

"Yes, I'm game."

"Good. Bring him in every third day for a check up. Here's his formula. We're working on several ideas now, Mrs. Horn. We should have some results for you by the end of the year. I don't want to say anything definite, but I have reason to believe we'll pull that boy right out of the fourth dimension, like a rabbit out of a hat."

The doctor was mildly surprised and pleased when Polly Horn kissed him, then and there.

Pete Horn took the 'copter home over the smooth rolling greens of Griffith. From time to time he looked at the pyramid lying in Polly's arms. She was making cooing noises at it, it was replying in approximately the same way.

"I wonder," said Polly.

"What?"

"How do *we* look to *it?*" asked his wife.

"I asked Wolcott about that. He said we probably look funny to him, also. He's in one dimension we're in another."

"You mean we don't look like men and women to him?"

"If we could see ourselves, no. But, remember, the baby knows nothing of men or women. To the baby whatever shape we're in, we are natural. It's accustomed to seeing us shaped like cubes or squares or pyramids, as it sees us from its separate dimension. The baby's had no other experience, no other norm with which to compare what it sees. We *are* its norm. On the other hand, the baby seems weird to us because we compare it to our accustomed shapes and sizes."

"Yes, I see. I see."

Baby was conscious of movement. One White Cube held him in warm appendages. Another White Cube sat further over, within an oblong of purple. The oblong moved in the air over a vast bright plain of pyramids, hexagons, oblongs, pillars, bubbles and multi-colored cubes.

One White Cube made a whistling noise. The other White Cube replied with a whistling. The White Cube that held him

shifted about. Baby watched the two White Cubes, and watched the fleeing world outside the traveling bubble.

Baby felt—sleepy. Baby closed his eyes, settled his pyramidal youngness upon the lap of the White Cube, and made faint little noises. . . .

"He's asleep," said Polly Horn.

Summer came. Peter Horn himself was busy with his export, import business. But he made certain he was home every night. Polly was all right during the day, but, at night, when she had to be alone with the child, she got to smoking too much, and one night he found her passed out on the davenport, an empty sherry bottle on the table beside her. From then on, he took care of the child himself, nights. When it cried it made a weird whistling noise, like some jungle animal lost and wailing. It wasn't the sound of a baby.

Peter Horn had the nursery sound-proofed.

"So your wife won't hear your baby crying?" asked the workman.

"Yeah," said Pete Horn. "So she won't hear."

They had few visitors. They were afraid that by some accident or other someone might stumble on Py, dear sweet pyramidal little Py.

"What's that noise?" asked a visitor one evening, over his cocktail. "Sounds like some sort of bird. You didn't tell me you had an aviary, Peter?"

"Oh, yes," said Horn, going and closing the nursery door. "Have another drink. Let's get drunk, everybody."

It was like having a dog or a cat in the house. At least that's how Polly looked upon it. Pete Horn watched her and observed exactly how she talked and petted the small Py. It was Py this and Py that, but somehow with some reserve, and sometimes she would look around the room and touch herself, and her hands would clench, and she would look lost and afraid, as if she were waiting for someone to arrive.

In September, Polly reported to Pete: "He can say Daddy. Yes he can. Come on, Py. Say, Daddy!"

She held the blue warm pyramid up.

"Wheelly," whistled the little warm blue pyramid.

"Daddy," repeated Polly.

"Wheelly!" whistled the pyramid.

"For heaven's sake, cut it out!" shouted Pete Horn. He took the child from her and put it in the nursery where it whistled over and over that name, that name, that name. Whistled, whistled. Horn came out and got himself a stiff drink. Polly was laughing quietly, bitterly.

"Isn't that terrific?" she said. "Even his *voice* is in the fourth dimension. I teach him to say Daddy and it comes out Wheelly! He says Daddy, but it sounds like Wheely to *us!*" She looked at her husband. "Won't it be nice when he learns to talk later? We'll give him Hamlet's soliloquy to memorize and he'll say it but it'll come out, "Wheelly-roth urll whee whistle wheet!" She mashed out her cigarette. "The offspring of James Joyce! Aren't we lucky?" She got up. "Give me a drink."

"You've had enough," he said.

"Thanks, I'll help myself," she said, and did.

October, and then November. Py was learning to talk now. He whistled and squealed and made a bell-like tone when he was hungry. Dr. Wolcott visited. "When his color is a constant bright blue," said the doctor. "That means he's healthy. When the color fades, dull—the child is feeling poorly. Remember that."

"Oh, yes, I will, I will," said Polly. "Robin's egg blue for health. Dull cobalt for illness."

"Young lady," said Wolcott. "You'd better take a couple of these pills and come see me tomorrow for a little chat. I don't like the way you're talking. Stick out your tongue. Ah-hmm. Give me your wrist. Pulse bad. Your eyes, now. Have you been drinking? Look at the stains on your fingers. Cut the cigarettes in half. I'll see you tomorrow."

"You don't give me much to go on," said Polly. "It's been almost a year now."

"My dear Mrs. Horn, I don't want to excite you continually. When we have our mechs ready we'll let you know. We're working every day. There'll be an experiment soon. Take those pills now and shut that nice mouth." He chucked Py under the "chin." "Good healthy baby, by gravy! Twenty pounds if he's an *ounce!*"

Baby was conscious of the goings and comings of the Two

White Cubes. The two nice White Cubes who were with him during all of his waking hours. There was another Cube, a Gray One, who visited on certain days. But mostly it was the Two White Cubes who cared for and loved him. He looked up at the one warm, rounder, softer White Cube and made the low warmbling soft sound of contentment. The White Cube fed him. He was content. He grew. All was familiar and good.

The New Year, the year 1969, arrived.

Rocket ships flashed on the sky, and helicopters whirred and flourished the warm California winds.

Peter Horn carted home large plates of specially poured blue and gray polarized glass, secretly. Through these, he peered at his "child." Nothing doing. The pyramid remained a pyramid, no matter if he viewed it through X-ray or yellow cellophane. The barrier was unbreakable. Horn returned quietly to his drinking.

The big thing happened early in February. Horn, arriving home in his helicopter, was appalled to see a crowd of neighbors gathered on the lawn of his home. Some of them were sitting, others were standing, still others were moving away, with frightened expressions on their faces.

Polly was walking the "child" in the yard.

Polly was quite drunk. She held the small blue pyramid by the hand and walked him up and down. She did not see the helicopter land, nor did she pay much attention as Horn came running up.

One of the neighbors turned. "Oh, Mr. Horn, it's the cutest thing. Where'd you *find* it?"

One of the others cried, "Hey, you're quite the traveler, Horn. Pick it up in South America?"

Polly held the pyramid up. "Say Daddy!" she cried, trying to focus on her husband.

"Wheellly!" cried the pyramid.

"Polly!" shouted Peter Horn, and strode forward.

"He's friendly as a dog or a cat," said Polly staggering along, taking the child with her. She laughed at the neighbors. "Oh, no, he's not dangerous. He looks dangerous, yes, but he's not. He's friendly as a baby. My husband brought him from Afghanistan the other day. Has anybody got a drink?"

The neighbors began to move off when Peter Horn glared at them.

"Come back!" Polly waved at them. "Come back! Don't you want to see my baby? *Don't* you? Yes, he's my *child*, my very *own!* Isn't he simply beautiful!"

He slapped her face.

"My baby," she said, brokenly.

He slapped her again and again until she quit saying it and collapsed. He picked her up and took her into the house. Then he came out and took Py in and then he sat down and phoned the Institute.

"Dr. Wolcott. This is Horn. You'd better get your stuff ready for the experiment. It's tonight or not at all."

There was a hesitation. Finally, Wolcott sighed. "All right. Bring your wife and the child. We'll try to have things in shape."

They hung up.

Horn sat there studying the pyramid.

"The neighbors thought he was the cutest pet," said his wife, lying on the couch, her eyes shut, her lips trembling. . . .

The Institute hall smelled clean, neat, sterile. Dr. Wolcott walked along it, followed by Peter Horn and his wife Polly, who was holding Py in her arms. They turned in at a doorway and stood in a large room. In the center of the room were two tables with large black hoods suspended over them. Behind the tables were a number of machines with dials and levers on them. There was the faintest perceptible hum in the room. Pete Horn looked at Polly for a moment.

Wolcott gave her a glass of liquid. "Drink this." She drank it. "Now. Sit down." They both sat. The doctor put his hands together and looked at them for a moment.

"I want to tell you what I've been doing in the last few months," he said. "I've tried to bring the baby out of the dimension, fourth, fifth, or sixth, that it is in. I haven't said much to you about it, but every time you left the baby for a checkup we worked on the problem. Now, do not get excited, but, I think we have found a way out of our problem."

Polly looked up quickly, her eyes lighting. "What!"

"Now, now, wait a moment," Wolcott cautioned her. "I have a solution, but it has nothing to do with bringing the *baby* out of the dimension in which *it* exists."

Polly sank back. Horn simply watched the doctor carefully for anything he might say. Wolcott leaned forward.

"I can't bring Py out, but I can put you people *in*. That's it." He spread his hands.

Horn looked at the machine in the corner. "You mean you can send *us* into Py's dimension?"

"If you want to go badly enough."

"I don't know," said Horn. "There'll have to be more explained. We'll have to know what we're getting into."

Polly said nothing. She held Py quietly and looked at him.

Dr. Wolcott explained. "We know what series of accidents, mechanical and electrical, forced Py into his present state. We can reproduce those accidents and stresses. But bringing him *back* is something else. It might take a million trials and failures before we got the combination. The combination that jammed him into another space was an accident, but luckily we saw, observed and recorded it. There are no records for bringing one back. We have to work in the dark. Therefore, it will be easier to put *you* in the fourth dimension than to bring Py into ours."

Polly asked, simply and earnestly, "Will I see my baby as he really is, if I go into his dimension?"

Wolcott nodded.

Polly said, "Then, I want to go." She was smiling weakly.

"Hold on," said Peter Horn. "We've only been in this office five minutes and already you're promising away the rest of your life."

"I'll be with my real baby, I won't care."

"Dr. Wolcott, what will it be like, in that dimension on the other side?"

"There will be no change that *you* will notice. You will both seem the same size and shape to one another. The pyramid will become a baby, however. You will have added an extra sense, you will be able to interpret what you see differently."

"But won't we turn into oblongs or pyramids ourselves? And won't you, doctor, look like some geometrical form instead of a human?"

"Does a blind man who sees for the first time give up his ability to hear or taste?" asked the doctor.

"No."

"All right, then. Stop thinking in terms of subtraction. Think in terms of addition. You're gaining something. You lose nothing. You know what a human looks like, which is an advantage Py doesn't have, looking out from his dimension. When you arrive 'over there' you can see Dr. Wolcott as *both* things, a geometrical abstract or a human, as you choose. It will probably make quite a philosopher out of you. There's one other thing, however."

"And that?"

"To everyone else in the world you, your wife and the child will look like *abstract forms.* The baby a triangle. Your wife an oblong perhaps. Yourself a hexagonal solid. The *world* will be shocked, not you."

"We'll be freaks."

"You'll be freaks," said Wolcott. "But you won't know it. You'll have to lead a secluded life."

"Until you find a way to bring all three of us out together."

"That's right. Until then. It may be ten years, twenty. I won't recommend it to you, you may both develop psychoses as a result of feeling apart, different. If there's anything paranoid in you, it'll come out. It's up to you, naturally."

Peter Horn looked at his wife, she looked back gravely.

"We'll go," said Peter Horn.

"Into Py's dimension?" said Wolcott.

"Into Py's dimension," said Peter Horn, quietly.

They stood up from their chairs. "We'll lose no other sense, you're certain, Doctor? Hearing or talking. Will you be able to understand us when we talk to you? Py's talk is incomprehensible, just whistles."

"Py talks that way because that's what he thinks we sound like when our talk comes through the dimensions to him. He imitates the sound. When you are over there and talk to me, you'll be talking perfect English, because you know *how.* Dimensions have to do with senses and time and knowledge. Don't worry about that."

"And what about Py? When we come into his strata of existence. Will he see us as humans, immediately, and won't that be a shock to him? Won't it be dangerous."

"He's awfully young. Things haven't got too set for him.

There'll be a slight shock, but your odors will be the same, and your voices will have the same timbre and pitch and you'll be just as warm and loving, which is most important of all. You'll get on with him well."

Horn scratched his head slowly. "This seems such a long way around to where we want to go." He sighed. "I wish we could have another kid and forget all about this one."

"This baby is the one that counts. I dare say Polly here wouldn't want any other, would you, Polly? Besides, she *can't* have another. I didn't say anything before, but her first was her *last*. It's either *this* baby or none at all."

"This baby, *this* baby," said Polly.

Wolcott gave Peter Horn a meaningful look. Horn interpreted it correctly. This baby or no more Polly ever again. This baby or Polly would be in a quiet room somewhere staring into space for the rest of her life, quite insane. Polly took this whole thing as a personal failure of her own. Somehow she supposed *she* herself had forced the child into an alien dimension. She lived only to make right that wrong, to lose the sense of failure, fear and guilt. It had to be Py. It just simply *had* to be Py. You couldn't reason Polly out of it. There was the evidence, the pyramid, to prove her guilt. It had to be Py.

They walked toward the machine together. "I guess I can take it, if she can," said Horn, taking her hand. "I've worked hard for a good many years now, it might be fun retiring and being an abstract for a change."

"I envy you the journey, to be honest with you," said Wolcott, making adjustments on the large dark machine. "I don't mind telling you that as a result of your being 'over there' you may very well write a volume of philosophy that will set Dewey, Bergson, Hegel or any of the others on their ears. I might 'come over' to visit you one day."

"You'll be welcome. What do we need for the trip?"

"Nothing. Just lie on these tables and be still."

A humming filled the room. A sound of power and energy and warmth.

They lay on the tables, holding hands, Polly and Peter Horn. A double black hood came down over them. They were both in darkness. From somewhere far off in the hospital, a voice-clock

sang, "Tick tock, seven o'clock. Tick tock, seven o'clock . . ." fading away in a little soft gong.

The low humming grew louder. The machine glittered with hidden, shifting, compressed power.

"Will we be killed, is there any chance of that?" cried Peter Horn.

"No, none!"

The power screamed! The very atoms of the room divided against each other, into alien and enemy camps. The two sides fought for supremacy. Horn opened his mouth to shout as he felt his insides becoming pyramidal, oblong with the terrific electrical wrestlings in the air. He felt a pulling, sucking, demanding power clawing at his body. Wolcott was on the right track, by heavens! The power yearned and nuzzled and pressed through the room. The dimensions of the black hood over his body were stretched, pulled into wild planes of incomprehension. Sweat, pouring down Horn's face, seemed more than sweat, it seemed a dimensional essence!

He felt his body webbed into a dimensional vortex, wrenched, flung, jabbed, suddenly caught and heated so it seemed to melt like running wax.

A clicking sliding noise.

Horn thought swiftly, but calmly. How will it be in the future with Polly and I and Py at home and people coming over for a cocktail party? How will it be?

Suddenly he knew how it would be and the thought of it filled him with a great awe and a sense of credulous faith and time. They would live in the same white house on the same quiet green hill, with a high fence around it to keep out the merely curious. And Dr. Wolcott would come to visit, park his beetle in the yard below, come up the steps and at the door would be a tall slim White Rectangle to meet him with a dry martini in its snake-like hand.

And in an easy chair across the room would sit a Salt White Oblong seated with a copy of Nietzsche open, reading, smoking a pipe. And on the floor would be Py, running about. And there would be talk and more friends would come in and the White Oblong and the White Rectangle would laugh and joke and offer little finger sandwiches and more drinks and it would be a good evening of talk and laughter.

That's how it would be.

Click.

The humming noise stopped.

The hood lifted from Horn.

It was all over.

They were in another dimension.

He heard Polly cry out. There was much light. Then he slipped from the table, stood blinking. Polly was running. She stooped and picked up something from the floor.

It was Peter Horn's son. A living, pink-faced, blue-eyed boy, lying in her arms, gasping and blinking and crying.

The pyramidal shape was gone. Polly was crying with happiness.

Peter Horn walked across the room, trembling, trying to smile himself, to hold on to Polly and the boy baby, both at the same time, and cry with them.

"Well!" said Wolcott, standing back. He did not move for a long while. He only watched the White Oblong and the White slim Rectangle holding the Blue Pyramid on the opposite side of the room. An assistant came in the door.

"*Shh,*" said Wolcott, hand to his lips. "They'll want to be alone awhile. Come along." He took the assistant by the arm and tiptoed across the room. The White Rectangle and the White Oblong didn't even look up when the door closed.

Columbus Was a Dope

BY LYLE MONROE

I DO LIKE to wet down a sale," the fat man said happily, raising his voice above the sighing of the air-conditioner. "Drink up, Professor, I'm two ahead of you."

He glanced up from their table as the elevator door opposite

them opened. A man stepped out into the cool dark of the bar and stood blinking, as if he had just come from the desert glare outside.

"Hey, Fred—Fred Nolan," the fat man called out. "Come over!" He turned to his guest. "Man I met on the hop from New York. Siddown, Fred. Shake hands with Professor Appleby, Chief Engineer of the Starship *Pegasus*—or will be when she's built. I just sold the Professor an order of bum steel for his crate. Have a drink on it."

"Glad to, Mr. Barnes," Nolan agreed. "I've met Dr. Appleby. On business—Climax Instrument Company."

"Huh?"

"Climax is supplying us with precision equipment," offered Appleby.

Barnes looked surprised, then grinned. "That's one on me. I took Fred for a government man, or one of you scientific johnnies. What'll it be, Fred? Old-fashioned? The same, Professor?"

"Right. But please don't call me 'Professor.' I'm not one and it ages me. I'm still young."

"I'll say you are, uh— Doc Pete! Two old-fashioneds and another double Manhattan! I guess I expected a comic book scientist, with a long white beard. But now that I've met you, I can't figure out one thing."

"Which is?"

"Well, at your age you bury yourself in this god-forsaken place—"

"We couldn't build the *Pegasus* on Long Island," Appleby pointed out, "and this is the ideal spot for the take off."

"Yeah, sure, but that's not it. It's—well, mind you, I sell steel. You want special alloys for a starship; I sell it to you. But just the same, now that business is out of the way, why do you want to do it? Why try to go to Proxima Centauri, or any other star?"

Appleby looked amused. "It can't be explained. Why do men try to climb Mount Everest? What took Peary to the North Pole? Why did Columbus get the Queen to hock her jewels? Nobody has ever been to Proxima Centauri—so we're going."

Barnes turned to Nolan. "Do you get it, Fred?"

Nolan shrugged. "I sell precision instruments. Some people raise chrysanthemums; some build starships. I sell instruments."

Barnes' friendly face looked puzzled. "Well—" The bartender

put down their drinks. "Say, Pete, tell me something. Would you go along on the *Pegasus* expedition if you could?"

"Nope."

"Why not?"

"I like it here."

Dr. Appleby nodded. "There's your answer, Barnes, in reverse. Some have the Columbus spirit and some haven't."

"It's all very well to talk about Columbus," Barnes persisted, "but he expected to come back. You guys don't expect to. Sixty years—you told me it would take sixty years. Why, you may not even live to get there."

"No, but our children will. And our grandchildren will come back."

"But— Say, you're not *married?*"

"Certainly I am. Family men only on the expedition. It's a two-to-three generation job. You know that." He hauled out a wallet. "There's Mrs. Appleby, with Diane. Diane is three and a half."

"She's a pretty baby," Barnes said soberly and passed it on to Nolan, who smiled at it and handed it back to Appleby. Barnes went on. "What happens to her?"

"She goes with us, naturally. You wouldn't want her put in an orphanage, would you?"

"No, but—" Barnes tossed off the rest of his drink. "I don't get it," he admitted. "Who'll have another drink?"

"Not for me, thanks," Appleby declined, finishing his more slowly and standing up. "I'm due home. Family man, you know." He smiled.

Barnes did not try to stop him. He said goodnight and watched Appleby leave.

"My round," said Nolan. "The same?"

"Huh? Yeah, sure." Barnes stood up. "Let's get up to the bar, Fred, where we can drink properly. I need about six."

"Okay," Nolan agreed, standing up. "What's the trouble?"

"Trouble? Did you see that picture?"

"Well?"

"Well, how do *you* feel about it? I'm a salesman, too, Fred. I sell steel. It don't matter what the customer wants to use it for; I sell it to him. I'd sell a man a rope to hang himself. But

I do love kids. I can't stand to think of that cute little kid going along on that—that crazy expedition!"

"Why not? She's better off with her parents. She'll get as used to steel decks as most kids are to sidewalks."

"But look, Fred. You don't have any silly idea they'll make it, do you?"

"They might."

"Well, they won't. They don't stand a chance. I *know*. I talked it over with our technical staff before I left the home office. Nine chances out of ten they'll burn up on the take off. That's the best that can happen to them. If they get out of the solar system, which ain't likely, they'll still never make it. They'll never reach the stars."

Pete put another drink down in front of Barnes. He drained it and said:

"Set up another one, Pete. They can't. It's a theoretical impossibility. They'll freeze—or they'll roast—or they'll starve. But they'll never get there."

"Maybe so."

"No maybe about it. They're *crazy*. Hurry up with that drink, Pete. Have one yourself."

"Coming up. Don't mind if I do, thanks." Pete mixed the cocktail, drew a glass of beer, and joined them.

"Pete, here, is a wise man," Barnes said confidentially. "You don't catch him monkeying around with any trips to the stars. Columbus— Pfui! Columbus was a dope. He shoulda stood in bed."

The bartender shook his head. "You got me wrong, Mr. Barnes. If it wasn't for men like Columbus, we wouldn't be here today—now, would we? I'm just not the explorer type. But I'm a believer. I got nothing against the *Pegasus* expedition."

"You don't approve of them taking kids on it, do you?"

"Well . . . there were kids on the *Mayflower*, so they tell me."

"It's not the same thing." Barnes looked at Nolan, then back to the bartender. "If the Lord had intended us to go to the stars, he would have equipped us with jet propulsion. Fix me another drink, Pete."

"You've had about enough for a while, Mr. Barnes."

The troubled fat man seemed about to argue, thought better of it.

"I'm going up to the Sky Room and find somebody that'll dance with me," he announced. "G'night." He swayed softly toward the elevator.

Nolan watched him leave. "Poor old Barnes." He shrugged. "I guess you and I are hard-hearted, Pete."

"No. I believe in progress, that's all. I remember my old man wanted a law passed about flying machines, keep 'em from breaking their fool necks. Claimed nobody ever could fly, and the government should put a stop to it. He was wrong. I'm not the adventurous type myself but I've seen enough people to know they'll try anything once, and that's how progress is made."

"You don't look old enough to remember when men couldn't fly."

"I've been around a long time. Ten years in this one spot."

"Ten years, eh? Don't you ever get a hankering for a job that'll let you breathe a little fresh air?"

"Nope. I didn't get any fresh air when I served drinks on Forty-second Street and I don't miss it now. I like it here. Always something new going on here, first the atom laboratories and then the big observatory and now the Starship. But that's not the real reason. I like it here. It's my home. Watch this."

He picked up a brandy inhaler, a great fragile crystal globe, spun it and threw it, straight up, toward the ceiling. It rose slowly and gracefully, paused for a long reluctant wait at the top of its rise, then settled slowly, slowly, like a diver in a slow-motion movie. Pete watched it float past his nose, then reached out with thumb and forefinger, nipped it easily by the stem, and returned it to the rack.

"See that," he said. "One-sixth gravity. When I was tending bar on earth my bunions gave me the dickens all the time. Here I weigh only thirty-five pounds. I like it on the Moon."

Attitude

BY HAL CLEMENT

DR. LITTLE woke up abruptly, with a distinct sensation of having just stepped over a precipice. His eyes flew open and were greeted by the sight of a copper-colored metal ceiling a few feet above; it took him several seconds to realize that it was keeping its distance, and that he was not falling either toward or away from it. When he did, a grimace of disgust flickered across his face; he had lived and slept through enough days and nights in interstellar space to be accustomed to weightlessness. He had no business waking up like a cadet on his first flight, grasping for the nearest support—he had no business waking up at all, in these surroundings! He shook his head; his mind seemed to be working on slow time, and his pulse, as he suddenly realized as the pounding in his temples forced itself on his awareness, must be well over a hundred.

This was not his room. The metal of the walls was different, the light was different—an orange glow streaming from slender tubes running along the junction of wall and ceiling. He turned his head to take in the rest of the place, and an agonizing barrage of pins and needles shot the length of his body. An attempt to move his arms and legs met with the same result; but he managed to bend his neck enough to discover that he was enveloped to the shoulders in a sacklike affair bearing all the earmarks of a regulation sleeping bag. The number stenciled on the canvas was not his own, however.

In a few minutes he found himself able to turn his head freely and proceeded to take advantage of the fact by examining his surroundings. He found himself in a small chamber, walled completely with the coppery alloy. It was six-sided, like the cells in a beehive; the only opening was a circular hatchway in what

Little considered the ceiling—though, in a second-order flight, it might as well have been a floor or wall. There was no furniture of any description. The walls were smooth, lacking even the rings normally present to accommodate the anchoring snaps of a sleeping bag. There was light shining through the grille which covered the hatchway, but from where he was Little could make out no details through the bars.

He began to wriggle his toes and fingers, ignoring as best he could the resulting sensations; and in a few minutes he found himself able to move with little effort. He lay still a few minutes longer, and then unsnapped the top fasteners of the bag. The grille interested him, and he was becoming more and more puzzled as to his whereabouts. He had no recollection of any unusual events; he had been checking over the medical stores, he was sure, but he couldn't recall retiring to his room afterward. What had put him to sleep? And where had he awakened?

He grasped the top of the bag and peeled it off, being careful to keep hold of it. He started to roll it up and paused in astonishment. A cloud of dust, fine as smoke, was oozing from the fibers of the cloth with each motion, and hanging about the bag like an atmosphere. He sniffed at it cautiously and started coughing; the stuff was dry, and tickled his throat unpleasantly. There could be only one explanation; the bag had been drifting in open space for a length of time sufficient to evaporate every trace of moisture from its fibers. He unrolled it again and looked at the stenciled number—GOA-III-NA12-422. The first three groups confirmed his original belief that the bag had belonged to the *Gomeisa;* the last was a personal number indicating the identity of the former owner, but Little could not remember whose number it was. The fact that it had been exposed to the void was not reassuring.

Dismissing that phase of the problem for the moment, the doctor rolled the bag into a tight bundle. He was drifting weightless midway between ceiling and floor, almost in the center of the room; the hatchway was in one of the six corners of the ceiling. Little hurled the bundle in the opposite direction. It struck the far corner and rebounded without much energy; air friction brought it to a halt a few feet from the wall. The doctor drifted more slowly in the direction of the grating. His throw had been accurate enough to send him within reach of it; he

caught hold of one of the bars and drew himself as close as possible.

Any lingering doubt that might have remained in his still befuddled brain as to whether or not he were still on board the *Gomeisa* was driven away as he caught his first glimpse through the grille. It opened—or would have opened had it been unlocked—onto a corridor which extended in two directions as far as the doctor's limited view could reach. The hallway was about thirty feet square, but there its orthodox characteristics terminated. It had been built with a sublime disregard for any possible preferred "up" or "down" direction. Hatches opened into all four sides; those opposite Little's station were circular, like his own, while those in the "side" walls were rectangular. From a point beside each opening, a solidly braced metal ladder extended to the center of the corridor, where it joined a heavy central pillar plentifully supplied with grips for climbing. Everything was made of the copperlike material, and the only light came from the orange-glow tubes set in the corners of the corridor.

Dr. Little maintained his position for several minutes, looking and listening; but no sound reached his ears, and he could perceive nothing through the gratings which covered the other hatchways. He also gave a few moments' attention to the lock on his own grating, which evidently was operated from either side; but it was designed to be opened by a complicated key, and the doctor had no instruments for examining its interior. With a sigh he hooked one arm about a bar of the grating and relaxed, trying to reason out the chain of events which had led up to these peculiar circumstances.

The *Gomeisa* had been a heavy cruiser, quite capable of putting up a stiff defense to any conceivable attack. Certainly no assault could have been so sudden and complete that the enemy would be in a position to use hand weapons on the crew before an alarm was raised—the idea was absurd; and fixed mount projectors of any type would have left more of a mark on the doctor than he could find at this moment. Furthermore, the ship had been, at the last time of which Little had clear recollection, crossing the relatively empty gulf between the Galaxy proper and the Greater Magellanic Cloud—a most unpropi-

tious place for a surprise attack. The star density in that region is of the order of one per eight thousand cubic parsecs, leaving a practically clear field for detector operations. No, an attack did not seem possible; and yet Little had been deprived of consciousness without warning, had been removed from the *Gomeisa* in that state, and had awakened within a sleeping bag which showed too plainly the fact that part, at least, of the cruiser had been open to space for some time.

Was he in a base on some planet of one of those few stars of the "desert," or in some ship of unheard-of design? His weightlessness disposed of the first idea before it was formulated; and the doctor glanced at his belt. Through the glass window in its case, he could see the filament of his personal equalizer glowing faintly; he was in a ship, in second-order flight, and the little device had automatically taken on the task of balancing the drive forces which would, without it, act unequally on each element in his body. As a further check, he felt in his pocket and drew out two coins, one of copper and one of silver. He held them nearly together some distance from his body, released them carefully so as not to give them velocities of their own, and withdrew his hand. Deprived of the equalizer field, they began to drift slowly in a direction parallel to the corridor, the copper bit moving at a barely perceptible crawl, the silver rapidly gaining. The corridor, then, was parallel to the ship's line of flight; and the coins had fallen forward, since the silver was more susceptible to the driving field action.

Little pushed off from the ceiling and retrieved the coins, restoring them to his otherwise empty pocket. He had not been carrying instruments or weapons, and had no means of telling whether or not he had been searched while unconscious. Nothing was missing, but he had possessed nothing worth taking. The fact that he was locked in might be taken to indicate that he was a prisoner, and prisoners are customarily relieved of any possessions which prove helpful in an escape. Only beings who had had contact with humanity would logically be expected to identify which of the numerous gadgets carried by the average man are weapons; but the design of this craft bore no resemblance to that of any race with which little was acquainted. He

still possessed his wrist watch and mechanical pencil, so the doctor found himself unable to decide even the nature of his captors, far less their intentions.

Possibly he would find out something when—and if—he was fed. He realized suddenly that he was both hungry and thirsty. He had been unconscious long enough for his watch to run down.

Little's pulse had dropped to somewhere near normal, he noticed, as he drifted beside the hatch. He wondered again what had knocked him out without leaving any mark or causing some sensation; then gave up this line of speculation in favor of the more immediate one advocated by his empty stomach. He fell asleep again before he reached any solution. He dreamed that someone had moved Rigel to the other side of the Galaxy, and the navigator couldn't find his way home. Very silly, he thought, and went on dreaming it.

A gonglike note, as penetrating as though his own skull had been used as the bell, woke him the second time. He was alert at once, and instantly perceived the green, translucent sphere suspended a few feet away. For a moment he thought it might be one of his captors; then his nose told him differently. It was ordinary lime juice, as carried by practically every Earth cruiser. A moment's search served to locate, beside the hatchway, the fine nozzle through which the liquid had been impelled. The doctor had no drinking tube, but he had long since mastered the trick of using his tongue in such circumstances without allowing any other part of his face to touch the liquid. It was a standard joke to confront recruits, on their first free flight, with the same problem. If nose or cheek touched the sphere, surface tension did the rest.

Little returned to the door and took up what he intended to be a permanent station there. He was waiting partly for some sign of human beings, partly for evidence of his captors, and, more and more as time wore on, for some trace of solid food. He waited in vain for all three. At intervals, a pint or so of lime juice came through the jet and formed a globe in the air beside it; nothing else. Little had always liked the stuff, but his opinion was slowly changing as more and more of it was forced on him. It was all there was to drink, and the air seemed to be

rather dry; at any rate, he got frightfully thirsty at what seemed unusually short intervals.

He wound his watch and discovered that the "feedings" came at intervals of a little over four hours. He had plenty of chance to make observations, and nothing else to observe; it was not long before he was able to predict within a few seconds the arrival of another drink. Later, he wished he hadn't figured it out; the last five or ten minutes of each wait were characterized by an almost agonizing thirst, none the less painful for being purely mental. Sometimes he slept, but he was always awake at the zero minute.

With nothing to occupy his mind but fruitless speculation, it is not surprising that he lost all track of the number of feedings. He knew only that he had slept a large number of times, had become deathly sick of lime juice, and was beginning to suffer severely from the lack of other food, when a faint suggestion of weight manifested itself. He looked at his equalizer the instant he noticed the situation and found it dark. The ship had cut its second-order converters, and was applying a very slight first-order acceleration in its original line of flight—the barely perceptible weight was directed toward what Little had found to be the stern. Its direction changed by a few degrees on several occasions, but was restored each time in a few seconds. The intensity remained constant, as nearly as Little could tell, for several hours.

Then it increased, smoothly but swiftly, to a value only slightly below that of Earthly gravity. The alterations in direction became more frequent, but never sudden or violent enough to throw Little off his feet—he was now standing on the rear wall, which had become the floor. Evidently the ship's pilot, organic or mechanical, well deserved the name. For nearly half an hour by the watch, conditions remained thus; then the drive was eased through an arc of ninety degrees, the wall containing the hatchway once more became the ceiling, and within a few minutes the faintest of tremors was perceptible through the immense hull and the direction of gravity became constant. If this indicated a landing, Little mentally took off his hat to the entity at the controls.

The doctor found himself badly placed for observation. The hatch was about four feet above the highest point he could

reach, and even jumping was not quite sufficient to give him a hold on the bars. He estimated that he had nearly all of his normal hundred and ninety pounds Earth weight, and lack of proper food for the last several days had markedly impaired his physical powers. It was worse than tantalizing; for suddenly, for the first time since he had regained consciousness in this strange spot, he heard sounds from outside. They were distorted by echoes, sounding and reverberating along the corridor outside, and evidently originated at a considerable distance, but they were definitely and unmistakably the voices of human beings.

For minutes the doctor waited. The voices came no nearer, but on the other hand they did not go any farther away. He called out, but apparently the group was too large and making too much noise of its own to hear him. The chatter went on. No words were distinguishable, but there was a prevailing overtone of excitement that not even the metallic echoes of the great hull could cover. Little listened, and kept his eyes fixed on the hatchway.

He heard nothing approach, but suddenly there was a faint click as the lock opened. The grille swung sharply inward until it was perpendicular to the wall in which it was set; then the side bars of its frame telescoped outward until they clicked against the floor. The crossbars separated simultaneously, still maintaining equal distances from each other, and a moment after the hatch had opened a metal ladder extended from it to the floor of the room. It took close examination to see the telescopic joints just below each rung. The metal tubing must be paper-thin, Little thought, to permit such construction.

The doctor set foot on the ladder without hesitation. Presumably, his captors were above, and wanted him to leave the room in which he was imprisoned. In this wish he concurred heartily; he was too hungry to object effectively, anyway. He made his way up the ladder to the corridor, forcing his shoulders through the narrow opening. The human voices were still audible, but they faded into the background of his attention as he examined the beings grouped around the hatch.

There were five of them. They bore some resemblance to the nonhumans of Tau Ceti's first planet, having evidently evolved

from a radially symmetric, starfishlike form to a somewhat more specialized type with differentiated locomotive and prehensile appendages. They were five-limbed and headless, with a spread of about eight feet. The bodies were nearly spherical; and if the arms had been only a little thicker at the base it would have been impossible to tell where body left off and arm began. The tube feet of the Terrestrial starfish were represented by a cluster of pencil-thick tendrils near the tip of each arm and leg—the distinction between these evidently lying in the fact that three of the appendages were slightly thicker and much blunter at the tips than the two which served as arms. The tendrils on the "legs" were shorter and stubbier, as well. The bodies, and the appendages nearly to their tips, were covered with a mat of spines, each several inches in length, lying for the most part nearly flat against the skin. These either grew naturally, or had been combed away from the central mouth and the five double-pupiled eyes situated between the limb junctions.

The beings wore metal mesh belts twined into the spines on their legs, and these supported cases for what were probably tools and weapons. Their "hands" were empty; evidently they did not fear an attempted escape or attack on the doctor's part. They made no sound except for the dry rustle of their spiny armor as they moved. In silence they closed in around Little, while one waved his flexible arms toward one end of the passageway. A gentle shove from behind, as the doctor faced in the indicated direction, transmitted the necessary command, and the group marched toward the bow. Two of the silent things stalked in front, two brought up the rear; and at the first opportunity, the other swarmed up one of the radial ladders and continued his journey directly over Little's head, swinging along by the handholds on the central beam.

As they advanced, the voices from ahead grew slowly louder. Occasional words were now distinguishable. The speakers, however, were much farther away than the sound of their voices suggested, since the metal-walled corridor carried the sounds well if not faithfully. Nearly three hundred yards from Little's cell, a vertical shaft of the same dimensions as the corridor interrupted the latter. The voices were coming from below. Without hesitation, the escort swung over the lip of the shaft and started down the ladder which took up its hull width; Little followed.

On the way, he got some idea of the size of the ship he was in. Looking up, he saw the mouths of two other corridors entering the shaft above the one he had traversed; at the level of the second, another hallway joined it from the side. Evidently he was not near the center line of the craft; there were at least two, and possibly three, tiers of longitudinal corridors. He had already seen along one of those corridors; the ship must be over fifteen hundred feet in length. Four vessels the size of the *Gomeisa* could have used the immense hull for a hangar, and left plenty of elbow room for the servicing crews.

Below him, the shaft debouched into a chamber whose walls were not visible from Little's position. His eyes, however, which had become exceedingly tired of the endless orange radiance which formed the ship's only illumination, were gladdened at the sight of what was unquestionably daylight leaking up from the room. As he descended, two of the walls became visible —the shaft opened near one corner—and in one of them he finally saw an air lock, with both valves open. He went hastily down the remaining few feet and stopped as he touched the floor. His gaze took in on the instant the twenty-yard square chamber, which seemed to occupy a slight outcrop of the hull, and stopped at the corner farthest from the air lock. Penned in that corner by a line of the starfish were thirty-eight beings; and Little needed no second glance to identify the crew of the *Gomeisa*. They recognized him simultaneously; the chatter stopped, to be replaced by a moment's silence and then a shout of "Doc!" from nearly two score throats. Little stared, then strode forward and through the line of guards, which opened for him. A moment later he was undergoing a process of handshaking and backslapping that made him wonder. He didn't think he had been *that* popular.

Young Captain Albee was the first to speak coherently.

"It's good to see you again, sir. Everyone but you was accounted for, and we'd begun to think they must have filed you away in formaldehyde for future reference. Where were you?"

"You mean I was the only one favored with solitary confinement?" asked Little. "I woke up in a cell upstairs, about two thirds of the way back, with less company than Jonah. I could see several other sets of bars from my stateroom door, but there

was nothing behind any of them. I haven't seen or heard any living creature but myself since then. I can't even remember leaving, or being removed from the *Gomeisa*. Does anyone know what happened?"

"How is it that you don't?" asked Albee. "We were attacked; we had a fight, of a sort. Did you sleep through it? That doesn't seem possible."

"I did, apparently. Give me the story."

"There's not much to give. I was about to go off watch when the detectors picked up a lump that seemed highly magnetic, and something over eighty million tons mass. We hove to, and came alongside it while Tine took a couple of pictures of the Galaxy and the Cloud so that we could find it again. I sent out four men to take samples, and the instant the outer door was opened these things"—he jerked his head toward the silent guards—"froze it that way with a jet of water on the hinge and jamb. They were too close to use the heavy projectors, and we still had no idea there was a ship inside the meteoric stuff. They were in space-suits, and got into the lock before we could do anything. By the time we had our armor on they had burned down the inner lock door and were all through the ship. The hand-to-hand fighting was shameful; I thought I knew all the football tricks going, and I'd taught most of them to the boys, but they had every last one of us pinned down before things could get under way. I never saw anything like it.

"I still can't understand what knocked you out. They used no weapons—that annoyed me—and if you didn't put a suit on yourself I don't see how you lived when they opened up your room. The air was gone before they started going over the ship."

"I think I get it," said Little slowly. "Geletane. Four cylinders of it. Did you broadcast a general landing warning when you cut the second-order to examine that phony Bonanza? You didn't, of course, since we weren't in a gravity field of any strength. And the 'meteor' was magnetic, which made no difference to our beryllium hull, but made plenty to the steel geletane cylinders, one of which I had unclamped for a pressure test and had left in the tester. I went on about my business, and the field yanked the cylinder out of the tester and against the wall. It didn't make enough noise to attract my attention, because I was in the next room. With the door open. And the valve cracked

just a trifle—just enough. I didn't need a suit when these starfish opened my room; I must have been as stiff as a frame member. I had all the symptoms of recovery from suspended animation when I woke up, too, but I never thought of interpreting them that way. The next ship I'm in, see if I don't get them to rig up an automatic alarm to tell what the second-order fields are doing—"

"You might also put your geletane cylinders back in the clamps when, and if, this happy state of affairs eventuates," remarked Goldthwaite, the gloomy technical sergeant. "May I ask what happens now, captain?"

"I'm afraid it isn't up to me, Goldy," returned Albee. "But I don't suppose they plan to keep us in this corner indefinitely."

Probably they didn't, but Albee was beginning to doubt his own statement before anything else happened. The sun had risen so that it was no longer shining directly into the port, and the great chamber had grown darker as the shadow of the vast interstellar flier crept down and away from its outer wall, when a new party came through the air lock from outside. Two of the pentapods came first, and came to a halt on either side of the inner door; after them crept painfully the long, many-legged, gorgeously furred body of a Vegan. Its antennae were laid along its back, blending with the black and yellow stripes; the tiny, heavily lidded eyes opened wide in the effort to see in what, to the native of the blue star, was nearly total darkness. The line of guards penning in the Earthmen opened and formed a double-walled lane between humans and Vegan.

Albee stepped forward, and at the same moment the interior lights of the chamber flashed on. The Vegan relaxed for a moment as its eyes readjusted themselves; then its antennae snapped erect and began to sway slowly in the simple patterns of the sign language of its race.

"I assume that some of you, at least, understand me," it said. "Our captors, having learned a little of my language in the months I have spent here, hope to save themselves trouble by using me as an interpreter. Do you wish to acknowledge acquaintance with my speech, or do you think it better to act as though our races had never encountered each other? I was not

captured near my home planet, so you might get away with such an act."

Most of the Earthmen had some knowledge of Vegan speech —the two systems are near neighbors, and enjoy lively commercial relations—and all looked to Albee for a decision. He wasted little time in thought; it was evident that they would be better off in communication with their captors than otherwise.

"We might as well talk," he answered, forming the signs as well as he could with his arms. "We should like to find out all you can tell us about these creatures, and it is unlikely that we would be given the chance to communicate secretly with you. Do you know where we are, and can you tell us anything about this planet and its people?"

"I know very little," was the answer. "I believe this world is somewhere in the Cloud, because the only time one of us was ever outside the fort at night he could see the Galaxy. Neither I nor my companions can tell you anything about the planet's own characteristics, for we have been kept inside the base which these creatures have established here ever since our capture. We move too slowly in this gravity to escape from them, and, anyway, the sun has not sufficient ultraviolet light to keep us alive. Our captors, we are sure, are not natives of the planet; they seldom venture outside the walls themselves, and always return before nightfall. Furthermore, they live on provisions brought by their interstellar ships, rather than native food.

"They have not told us the reason for our capture. They allow us to prepare everything we need for existence and comfort, but every time we try to divert supplies to the production of weapons, they seem to know it. They let us nearly finish, and then take it away from us. They never get angry at our attempts, either. We don't understand them."

"If they are so careful of your well being, why do they try to drive us crazy on a steady diet of lime juice?" interrupted Little.

"I could not say; but I will ask, if you wish," returned the Vegan. He swung his fusiform body laboriously around until he was facing one of the creatures who had accompanied him to the ship, and began semaphoring the question. The men watched silently; those who had not understood the preceding conversation were given the gist of it in brief whispers by their

fellows. Little had not had a chance to ask if the others had been fed as he had been; their silent but intense interest in the answer to his question indicated that they had. The chronic slowness of Vegan communication rendered them all the more impatient to know the reason, as the black and yellow creature solemnly waved at the motionless pentapod.

There was a brief pause before the latter began to answer. When it did, the Earthman understood why an interpreter was necessary, even though both sides knew the same language. The arms of the creature were flexible enough in front-to-rear motion, as are human fingers; but their relatively great width hampered them in side-to-side waves, and put them at a severe disadvantage in using the Vegan language. The Vegan himself must have had difficulty in comprehending; the Earthman could not make out a single gesture.

Finally the interpreter turned back to the human listeners and reported the result of his questioning:

"The green liquid is all that our captors found in the canteens of your space armor. Since there was a large supply of it on your ship, they assumed it was the principal constituent of your diet. They have, however, salvaged practically all of the contents of your vessel, and you will be allowed shortly to obtain your foodstuffs, cooking equipment, and personal belongings, with the natural exception of weapons. I might add, from my own experience, that their unfamiliarity with your weapons will not help you much if you attempt to smuggle any from the stores. We never could get away with it."

"What surprises me," remarked Albee in English, "is that we are allowed at the supplies at all. These creatures must be extremely confident in their own abilities to take a chance."

"From what you told me of the hand-to-hand fighting, such confidence may be justified," remarked Little with a grin. "Didn't you say that they more or less wiped up the floor with the boys?"

"True," admitted the captain, "but there's no need to rub it in. Why are they so stuck up about it?"

"Stuck up? I was getting a strong impression that, as a race, they must be unusually modest." Albee stared at the doctor, but could not get him to amplify the remark. The Vegan inter-

rupted further conversation, attracting their attention with a flourish of its long antennae.

"I am told that your supplies have been unloaded through another port, and are lying on the ground outside the fort. You are to accompany me and the guards to the pile, and take all the food you wish—you may make several trips, if necessary, to get it all to your quarters in the fort."

"Where is this fort, in relation to the ship?" asked Albee. "What sort of land is around it?"

"The ship is lying parallel to the near wall of the fort, about two hundred yards from it. This air lock is near the nose of the ship, and almost opposite the main valves of the fort. In front of the ship the ground is level for about a quarter of a mile, then dips down into what seems to be a heavily forested river valley. I don't know what lies beyond, in that direction; this sunlight is too dim for me to make out the details of objects more than a mile or two distant. I do get the impression of hills or mountains—you will be able to see for yourselves, outside. Your eyes are adapted to this light.

"In the other direction, toward the stern, the level plain extends as far as I can see, without any cover. Anyway, you'd be between the ship and the fort for the first five hundred yards, if you went that way, and could easily be cornered. I warn you again that these creatures will outguess you, but—good luck. I've told you all I know."

"I guess we might as well go along and get our stuff, then," remarked Albee to his crew. "Don't do anything rash without orders. We'll wait until we see how the supplies are arranged. *Maybe* we'll have to move some apparatus to get at the food."

The black bodies of the guards had ringed them, almost statuesque in their motionlessness, during the conversation. As the Vegan concluded his speech, he had turned toward the lock; Albee had spoken as the men began to follow. The air of the planet was evidently similar to that of Earth, Vega Five, and the home planet of the pentapods, since both valves of the air lock were open. It had the fresh-air smell which the filtered atmosphere of a spaceship always seems to lack, and the men almost unconsciously squared their shoulders and expanded their chests as they passed down the ramp in the wake of the

heavily moving Vegan. The scene before them caught all eyes; the interpreter's description had been correct, but inadequate.

The hull of the interstellar cruiser curved high above their heads. The lock chamber occupied a relatively tiny gondola that projected far enough, from its location well to one side of the keel, to touch the ground. The outside of the vessel gleamed with a brilliant silvery luster, in contrast to the coppery glow of the interior. The fort, directly in front of them, was an imposing structure of stone composition half a mile in length and two hundred feet high on the side facing them. The walls were smoothly polished, and completely lacking in windows.

To the left, beyond the nose of the craft, the level meadow continued for several hundred yards, and then dipped abruptly downward. As the Vegan had intimated, the background was filled by a range of rugged-looking mountains, the nearest several miles away. The sun was now nearly overhead, thereby robbing the landscape of the shadows that would have given the Earthman a better idea of its relief. Albee wasted little time looking for what he wouldn't be able to see; he strode on toward the great gate of the fort. In front of the portals were several large heaps of articles, and even at this distance some of them could be recognized as pieces of equipment from the unfortunate *Gomeisa.* The guards closed around the group of human beings and proceeded at the pace set by the captain, leaving the Vegan prisoner to follow at his own speed.

It was evident that a thorough job of looting had been done on the Terrestrial warship. Food and medical supplies, bunks, kitchen equipment, blankets and miscellaneous items of field apparatus were included in the half dozen heaps laid out beneath the glistening black walls. Mixed in with the rest were hand tools and weapons, and Albee, in spite of the Vegan's warning, began promptly to make plans. At his orders, each of the men dragged a shoulder pack out of one of the piles and began filling it with containers of food and drink. The pile of lime-juice bottles was pointedly ignored until Albee, glancing at it, noticed that one case of bottles was not green in color. He went over for a closer look, then extracted one of the plastic containers, opened it and sniffed. His voice, as he turned to the watching men, was just a little louder than usual:

"Would anyone know where they found this stuff?" His eyes

wandered over the faces of the crew. It was Sergeant Goldthwaite who finally answered, hesitantly.

"They *might* have looked between the bulkheads at the cap end of the storage room, cap'n. It was pretty cool there, and seemed like a good place—"

"Not too easy to visit often, in flight," remarked the captain quizzically.

"I never visited it, sir—you can see it hasn't been touched. But you said we would probably touch at Ardome, and I was thinking it might be possible to get rid of it there."

"It probably would. But they have good customs inspectors, and war vessels aren't immune to search. I shudder to think of what would have happened to our reputation if we had made Ardome. Consider yourself responsible for this stuff."

The sergeant gulped. The case of liquor weighed eighty pounds, and could not possibly be crammed into a shoulder pack. He realized gloomily that the captain had inflicted about the only possible punishment, under the circumstances. He put five of the bottles into his pack and began a series of experiments to find out which way his arms went most easily around the case. A small group of pentapods regarded the struggle with interest, their spines waving slowly like a field of wheat in a breeze.

Albee watched, too, for a moment; then he went on, without altering the tone of his words:

"Most of you should have a decent supply of food by now. This planet probably has good water, since the vegetation and clouds appear normal. We should be able to live here without the aid of our generous captors, but we may have some difficulty in avoiding their well-meant ministrations. The Vegan said his people had never been able to fool these pincushions into letting them make or steal a weapon. Remembering that, use every caution in carrying out the orders I am about to give.

"When I have stopped talking, each of you count thirty, slowly, meanwhile working your way toward the handiest tool or weapon in the neighborhood. When you reach thirty, dive for the object of your choice and do your best to get to that forest. You have all, except the doctor, had some experience of the rough-and-tumble tactics of these creatures; the problem, I

should say, is to get past them without a fight and into the open. I think we can outrun, on the level, any invertebrate alive. If someone is caught, don't stay to help him; right now, I want to get at least a small crew away from here, where we can work out at our leisure rescue plans for the unlucky ones. Don't all try to get guns; we'll find cutting tools just as useful in the woods. You may start counting."

Without haste, Albee counted over the contents of his pack, swung it to his shoulders. The guards, spines twitching slowly, watched. Reiser, the senior navigator, was helping one of Goldthwaite's engineers drag the ship's electric stove from a pile which chanced also to contain several ion pistols. Little picked up and tested briefly a hand flash, conscious of the fact that guards were watching him closely. The action had some purpose; the flash was almost exactly similar to the pistols. He tightened the straps of his own pack—and someone reached the count of thirty. Albee had chosen that number to give the men time enough to prepare, but not enough to get very far out of pace in the counting.

Almost as one, the human beings turned and sprinted for the bow of the warship. Almost simultaneously, the guards went into action, each singling out a man and going to work. Little, who had not experienced the tactics of the creatures, managed to avoid them for perhaps five yards; then one of them twined its tendrils about his wrist and literally climbed up onto his back. A moment later, the doctor was face down on the grass, arms and legs held motionless in the grip of the clumsy-looking, stubby limbs. The spines of his captor were not stiff enough to penetrate clothing or skin, but their pressure on the back of his neck was unpleasant. He managed to turn his head sufficiently to see what was going on.

Four men, who had been at the pile nearest the forest, had moved fast enough to avoid contact with their guards. They were now running rapidly toward the declivity; none of the creatures was in pursuit. Albee and a dozen others were practically clear, but one of these was pulled down as Little watched. One man found himself in a relatively clear space and made a dash. Guards closed in from either side, but realized apparently

that they were not fast enough to corner the fellow. They turned back to other prey, and the runner was allowed to escape.

Goldthwaite had been in a bad position, with almost the whole group to fight through on his way to the woods. Apparently he never thought of disobeying orders, and going the other way. He dropped the case he had been trying to lift, seized a bottle from it with each hand and headed into the mêlée. Curiously enough, he was the only one using weapons; the guards, festooned with implements snapped to their leg belts, fought with their bare "hands," and the men all ignored their guns and knives in the effort to run. Most of the pentapods at the sergeant's end of the group were engaged, and he got nearly halfway through the group before he was forced to use his clubs.

Then a guard saw him and closed in. Goldthwaite was handicapped by the creature's lack of a head, but he swung anyway. The blow landed between the two upper limbs, just above one eye. It didn't seem to bother the pentapod, whose flexible legs absorbed most of the shock, and the tough plastic of the bottle remained unbroken; but the stopper, urged by interior pressure and probably not closed tightly enough—it may have been the bottle investigated by the captain—blew out, soaking the sergeant's sleeve and jacket with liquor. This particular fluid had some of the characteristics of Earthly champagne, and had been considerably shaken up.

Another of its qualities was odor. This, like the taste of Roquefort, required a period of conditioning before one could become fond of it; and this may have been the reason that the guard fell back for a moment as the liquid foamed out. It is more likely, however, that he was merely startled to find an object his people had decided was harmless suddenly exhibit the characteristics of a projectile weapon. Whatever the reason, he hesitated a split second before pressing the attack; and in that moment the sergeant was past.

Ahead of him, three or four more guards—all who remained unoccupied—converged to meet him. Without waiting for them to charge, Goldthwaite swung the other bottle a few times and hurled it into their midst. He was a man quick to profit by experience. Unfortunately, so were the guards. They saw the liquid which had soaked into the sergeant's clothes, and needed no

further assurance that it was harmless. They paid no attention to the flying bottle until it landed.

This flask was stoppered more tightly and did not blow out. The pentapods, who had either seen the behavior of the first bottle or had been told of it, decided that the latest arrival was a different sort of weapon and prudently changed course, avoiding the spot where it lay, and the sergeant, with no such scruples, passed over it like a racehorse. It was several seconds before the guards overcame their nervousness over this new form of delayed-action bomb, and before they could circle around it, Goldthwaite was well out of reach across the plateau. By that time the action was over.

Albee had gotten away with about a dozen men. One of these had escaped through the co-operation of the Vegan, who, unable to run himself, had tripped up with an antenna the only guard in position to catch the man. Some twenty-five human beings lay about on the field, each held down by a single pentapod. Two swarms of the creatures were coming rapidly toward them, one from the ship and one from the fort. These formed a ring about the area, and Little found himself once more free to get to his feet. He did so, the others gathering round him.

All guns had disappeared, it seemed. One of the men had tried to use his when he had been intercepted, but his opponent had relieved him of the weapon before any damage had been done. Evidently the information had been broadcast, for all the other ion pistols had been confiscated, though the very similar flash tubes had not been touched. Injuries were confined to bruises.

Little was beginning to get ideas about his captors—he had, indeed, begun to get them some time since, as his cryptic remark to Albee had indicated. Every action they performed gave evidence of most peculiar motivation and thought processes, evidence which was slowly sifting its way through Little's mind. He continued to let it sift as the men, still ringed by pentapods, began to march toward the fort.

The great outer gate opened into a chamber large enough to hold the entire group with room to spare. It was about fifteen feet high, metal walled, and possessed but two doors—the outer valve and another, smaller, in the opposite wall, giving access

to the interior of the structure. As though the room were an air lock, the inner portal was not opened until the outer had shut. Then the group passed into a brilliantly lit corridor, stretching on ahead of them far into the bowels of the fort. Hallways branched from this at intervals of a few yards, some brightly lighted like the main passage, others in nearly total darkness. They had gone only a short distance when the men were stopped by their escort in front of a small doorway in the left-hand wall.

One of the guards activated a small control in the wall beside the door, causing the latter to slide open. The small chamber disclosed was evidently an elevator car, into which five of the pentapods beckoned an equal number of the men. The door slid to behind them, and several minutes of uneasy silence ensued. Little asked the Vegan if it knew where they were being taken.

"Our quarters are in a superstructure on the roof," gestured the creature. "They may put you there, or on the roof itself. You can live in the open under this sunlight; we need supplementary lighting, both visual and ultraviolet. They have told me nothing. I do not even know whether we will be allowed to communicate any further—though I hope so. My companions and I have long wanted to have someone besides ourselves to talk to."

"I suspect we shall be allowed as much contact as we wish—they may even quarter us in adjoining rooms," remarked Little hesitantly. The Vegan eyed him closely for a moment.

"Ah, you have found a way into their minds, Earthman?" it asked. "I congratulate you. We have never been able to understand their motivation or actions in the slightest degree. It may, of course, be that they think more after your fashion than ours —but that seems unlikely, when your minds and ours are sufficiently alike to agree even on matters of philosophy."

"I am not at all sure I have penetrated their minds," answered Little. "I am still observing, but what I see has so far strengthened the impression I obtained almost at the first. If anything constructive results from my ideas, I will tell, but otherwise I should prefer to wait until I am much more certain of my conclusions."

The return of the elevator interrupted the laborious exchange of ideas. It had been gone many minutes, but the Vegan sign language is much slower than verbal speech, and the two allies

had had time for only a few sentences. They watched silently as five more men and their guards entered the car and disappeared. There was little talk in the ensuing wait; most of the beings present were too fully occupied in thinking. One or two of the men exchanged low-voiced comments, but the majority kept their ideas to themselves. The Vegan, of course, was voiceless; and the guards stood about patiently, silent as ever, rock-still except for the slow, almost unceasing, wave of the black, blunt spines. They did not seem even to breathe.

The silence continued while the elevator returned and departed twice more. Its only interruption consisted of occasional faint metallic sounds of indeterminable origin, echoing and re-echoing along the corridors of the vast pile. To Little, they were interesting for the evidence they provided of activity through the place, and therefore of the presence of a very considerable garrison. Nothing was seen to substantiate this surmise, however, although it was possible to view objects at a considerable distance along the well-lighted passage.

The elevator returned for the last time. Little, the few remaining men, and the Vegan entered, accompanied this time by only two of the pentapods, and the upward journey began. The car was lifted by an extremely quiet—or extremely distant—motor; the continuous silence of the place, indeed, was beginning to jar on human nerves. The elevator rose smoothly; there was no sense of motion during the five or six minutes of the journey. Little wondered whether the creatures had some ulterior motive, or were simply economizing on power—if the fort were only two hundred feet high, an elevator journey from ground to roof should take seconds, not minutes. He never discovered the answer.

The car door slid open to reveal another corridor, narrower than the one below. To the right it came to an end twenty yards away where a large circular window allowed the sunlight to enter. Little decided that they must be above the level of the outer wall, since no openings had been visible in it. The wall at this level must be set back some distance, so as to be invisible from a point on the ground near the building.

The party was herded in the opposite direction toward several doors which opened from the hallway. Through a number of these, light even brighter than the daylight was streaming; from

others there emerged only the sound of human voices. The party paused at one of the brightly lighted doorways, and the Vegan turned to Little.

"These are our quarters," telegraphed the creature. "They have permitted us to set up everything we needed for comfort. I would invite you to enter, but you should first find some means of protecting your skin against the ultraviolet radiators we have arranged. Dark goggles, such as Earthmen usually wear on Vega Five, would also be advisable. I shall tell my friends about you; we will converse again whenever possible. If my ears do not deceive me, your people are quartered along this same corridor, so we can meet freely—as you guessed we might. Farewell." The bulky form turned away and hitched itself through the blue-lit entrance.

The creature's auditory organs had not lied; the human crew was found occupying a dozen of the less strongly illuminated rooms along the corridor. Magill, who as quartermaster was senior officer present, had taken charge and had already begun to organize the group when Little and his companions arrived. One chamber had already been set aside as a storeroom and kitchen, and the food was already being placed therein. When the quartermaster caught sight of Little, he wasted no time in greetings.

"Doctor, I seem to recall that the Vegan said we could make several trips for supplies, if necessary. I wish you'd take a dozen men, try to make these creatures understand what you want, and bring up the rest of the food. Also, Denham wants that stove—he promises a regular meal half an hour after you get it here. Can do?" Little nodded; and the officer told off a dozen men to go with him. The group retraced their steps to the elevator.

Several of the pentapods were loitering at this end of the corridor. They made no objection as the doctor investigated the control beside the elevator door, and finally manipulated it; but two of them entered the car with Little and half of his crew, and accompanied them to the ground level. Little obtained one more bit of information as they started down: the elevator controls were like those of an Earthly automatic car, simply a row of buttons. He indicated the lowest, and made a motion as

though to push it, meanwhile looking at one of the guards. This creature came over beside him, and with one of its tendrils touched a stud less than a third of the way down the panel. Little smiled. Evidently the fort was more underground than above, and must be a far larger structure than he had thought. It was nice to know.

They waited at the lower level, while one of the men took the car back for the others; then, accompanied by several more of the guards, they went outside. None of the men could discover how the doors of the entrance chamber were manipulated; none of the creatures accompanying them appeared to touch a control of any sort. The piles of supplies and equipment were still in front of the gate; nothing had been touched. Squads of the pentapods were hurrying this way and that around the great ship; some were visible, clinging to nets suspended far overhead against the hull, evidently repairing, cleaning, or inspecting.

A long line of the creatures was passing continually back and forth between one of the ports of the vessel and a small gate, which the men had not previously noticed, in the wall of the fort. They were bearing large crates, which might have contained anything, and various articles of machinery. Little watched them for a moment, then turned his attention to their own supplies.

The men loaded up and returned to the elevator, into which the food was piled. One man started up with the load and the others went back to the piles. This time Little turned his attention to the stove, which the cook had demanded. It had already been worked out of its pile and was awaiting transportation. The doctor first inspected it carefully, however.

It was an extremely versatile piece of equipment. It contained a tiny iron converter of its own, but was also designed to draw power from any normal standard, if desired. Being navy equipment, it also had to be able to work without electric power, if circumstances required precautions against detection; and a tube connection at the back permitted the attachment of a hydrogen or butane tank—there was even a clamp for the tank.

Little saw a rack of three gas tanks standing by a nearby pile, and was smitten with an idea. He detached one of them and fastened it into the stove clamp which, fortunately, it fitted. Four men picked up the stove and carried it inside. The other

tanks were removed from the rack and carried after it. They contained, it is needless to say, neither hydrogen nor butane. Little hoped that none of the watching guards had been present at the actual looting of the *Gomeisa*, and knew where those tanks came from. He had tried to act normally while he had fitted the cylinder and given orders to bring the others.

The elevator had not yet returned when they reached its door. The men set their burden down. To Little's surprise, none of the guards had accompanied them—they had deduced, from the weight and clumsiness of the device the men were carrying, that watching them would be superfluous until the machine was set up. Or, at least, so reasoned the doctor. He took advantage of the opportunity to tell the men to be very careful of the cylinders they were carrying. They asked no questions, though each man had a fairly good idea of the reason for the order. They already knew that the atomic converter of the stove was in working order, and that heating gas was, therefore, superfluous.

When the elevator finally arrived, Little ordered the man who had brought it to help the others bring the rest of the food from outside. There was still a good deal of it, and it might as well be brought in, though a large supply had already accumulated in the storeroom. He finished his orders with:

"You're free to try any smuggling you want, but be careful. They already know what an ion gun looks like, and we have been told that they're very good at guessing. We don't know, of course, what articles besides weapons they don't want us to have; so be careful in taking anything you think they might object to. I'm going to take this load up." He slid the door to and pressed the top button.

The same group of guards were waiting at the top. They watched with interest as several men helped the doctor carry the stove to the room which was to serve as the kitchen. There was not too much space left, for food supplies filled all the corners. Little smiled as he saw them—it seemed as though Magill were anticipating a long stay. He was probably justified.

Denham, the cook, grinned as he saw the stove. He had cleared a narrow space for it and fussily superintended the placing. He looked at the gas tank attached to it, but before he could

express any surprise, Little spoke. He kept his voice and expression normal, for several pentapods had followed the stove into the room.

"Act as if the tank were just part of the stove, Den," he said, "but use the iron burner. I assure you that the gas won't heat anything."

Denham kept his face expressionless and said, "O. K., doc. Good work." As though nothing unusual were occurring, he began digging supplies from the surrounding heaps, preparing the promised dinner. The doctor sought out Magill, who had just completed the task of assigning men to the rooms.

"Have you found out how this place is ventilated?" asked Little, as soon as he could get the quartermaster's attention.

"Hello, doc. Food in? Yes, we located the ventilators. Ceiling and floor grilles. Too small to admit a pair of human shoulders, even if we got the bars out."

"I didn't mean that, exactly. Do you know if the same system handles the rest of the building? And whether those grilles keep blowing if we open the window in a room?"

"We can find out the answer to the second, anyway. Come along."

The two entered one of the rooms, which had been set aside as a sleeping room for three men. All the chambers on this side of the corridor had transparent ports opening onto the roof; after some juggling, Magill got one open. Little, standing beneath the ceiling inlet, was gratified to feel the breeze die away. He nodded slowly.

"I think we should form the habit of keeping the windows open," he remarked. "Of course, not being too pointed about it. It may get a trifle cool at night, but we can stand that. By the way, I forgot to have the men bring up those sleeping bags; I'll tell them the next time the elevator comes up. Do you think our faithful shadows"—Little nodded toward the two pentapods standing in the doorway—"would object if we went out on the roof? They let us open the window, and we could go out that way, in a pinch. There must be some more regular exit."

"No harm in trying," replied Magill. He led the way into the corridor, the two watchers moving aside for them, and after a moment's hesitation turned left, away from the elevator. The

guards fell in behind. The room they had been in was the last of those occupied by the Earthmen, and several lightless doorways were passed before the end of the passage was reached. They found it similar in arrangement to the other end, containing a large, transparent panel through which was visible a broad expanse of roof.

Magill, who had opened the window in the room, began to examine the edges of the panel. It proved openable, the control being so high above the floor as to be almost out of reach. The pentapods could, without much effort, reach objects eight feet in the air. The quartermaster, with a little fumbling, finally released the catch and pushed the panel open.

The guards made no objection as the men went out on the roof, merely following a few yards behind. This end of the hall opened to the southeast—calling the sunrise point east—away from the ship. From a position a few yards outside the panel, it was evident that the prison quarters occupied a relatively small, rectangular pimple near the north corner of the half-mile-square roof. The men turned left again and passed along the side of the protuberance. Some of the crew saw them through the windows, which Magill beckoned them to open. Denham had already opened his, and cooking odors were beginning to pour forth.

Crossing the few yards to the five-foot parapet at the edge of the roof, the men found a series of steps which raised them sufficiently to lean over the two-foot-thick wall. They were facing the forest to which Albee and the others who had escaped had made their dash. From this height they could see down the declivity at its edge, and perceive that a heavy growth of underbrush was present, which would probably seriously impede travel. No sign of the refugees caught the eye.

The bow of the ship protruded from behind the near corner of the structure. Little and Magill moved to this wall and looked down. The line of pentapods was still carrying supplies to the vast ship, whose hull towered well above the level of the two watchers. It hid everything that lay to the northwest. After a few minutes' gaze the officers turned back to the quarters. They were now at the "elevator" end of the superstructure, and found themselves facing the panel which had not yet been opened.

Two of the men were visible, watching them from within; and Magill, walking over to the entrance, pointed out the catch which permitted it to open. No outside control was visible.

"The men have come with the rest of the food, sir," said one as soon as the panel opened, "and Denham says that dinner is nearly ready."

"We'll be in shortly," said the quartermaster. "You may tell the men they are free to come out and explore, if they wish."

"I would still like to know if the ventilator intake is on this roof," remarked Little as they walked on. "It must be somewhere, and the wall we saw was perfectly smooth. There doesn't seem to be anything out in the middle of this place, so if it's anywhere, it must be hiding in the shadow of the parapet. Can you see any irregularities near the edges?"

"No," said Magill after straining his eyes in every direction, "I can't. But we're half a mile from two of the walls, and might easily miss such a thing at a much shorter distance. If it's here, one of the men will find it sooner or later. Why do you worry about it, if you want us to use outdoor air directly?"

"I thought it might be a useful item of knowledge," replied Little. "I succeeded in smuggling up my three remaining cylinders of geletane, disguised as part of the stove. I don't suppose there's enough to put the whole garrison out—but still, it would be nice to know their ventilating system."

"Good job, doctor. After we eat we'll find out what else, if anything, the boys succeeded in bringing up, and more or less take inventory. Then perhaps we can arrange some plan for getting out of here. I wish we knew what has become of the *Gomeisa*; I don't suppose we could manage the controls on that ship outside." Magill made this remark with such perfect seriousness that Little was forced to grin.

"You may be a little optimistic, Keys. Remember the Vegans, who are far from stupid creatures, have been here for some time and have failed to get to first base to date."

"They are handicapped physically, doc. They can't live for long outside without supplementary ultraviolet sources, and they have to plan with that in mind. Furthermore, this gravity is nearly twice that of Vega Five, and they can't move at any rate better than a crawl."

Little was forced to admit the justice of this argument, but remained, in Magill's opinion, pessimistic. He had developed a healthy respect for their captors, along with a slight comprehension of their motives. The trouble was, the Vegan's description of the way the pentapods seemed to guess the purpose of a device before it was completed did not tie in very well with his theory concerning those motives. More thought was indicated. He indulged in it while Magill steered him back to the prison and dinner.

The meal was good. There was no reason why it shouldn't be, of course, since the cook had all the usual supplies and equipment; but Little was slightly surprised to find himself enjoying dinner while in durance vile as much as if he were on his own ship. It didn't seem natural. They ate in the hallway, squatted in a circle in front of the kitchen door. The Vegans, whose quarters were directly opposite, watched from their doorways. They also commented from time to time, but were very seldom answered, since both hands are required to speak Vegan. They would probably have felt slighted if one of them—not the one who had acted as interpreter—had not understood some English. He got about two words in every five, and succeeded in keeping his race in the conversation.

The meal concluded, the meeting of the ways and means committee, which consisted of all human beings and Vegans in the neighborhood, was immediately called to order. The presence of nonmembers, though resented, was perforce permitted, and discussion began under the watchful eyes of eight or ten pentapods. Little, rather than Magill, presided.

"The first thing we need to know," he said, "is everything possible about our five-sided friends. The Vegans have been with them longer, and probably know more than we; but owing to the relative slowness of their speech, we will save their contribution until last. You who understand English may translate the substance of our discussion to your fellows if you wish, but we will hold a second meeting afterward and go over everything in your own language. First, then, will anyone who succeeded in smuggling any weapons or probable-contraband tools up here please report? Keep your hands in your pockets and your eyes

on me while you do so; there is a high order of probability that our friends are very good at interpreting gestures—even human gestures."

A man directly across the circle from Little raised a hand. The doctor nodded to him.

"When we were loading food, before we made that break, I dropped my testing kit into my pack first of all. I didn't try to cover it up and I concentrated on boxed articles of food afterward to make it look natural." The speaker was one of Goldthwaite's assistants, a tall fellow with the insignia of a technician's mate. Little knew him fairly well. He had been born on Earth but showed plainly a background of several generations on the colony-planet Regulus Six—big bones, dark skin, quick reactions.

"Good work, Dennis. What is in the kit?"

"Pliers, volt-ammeter, about sixty feet of assorted sizes of silver wire, two-thousand-line grating, midget atomic wire-welder, six plano-convex lenses of various focal lengths, support rod and two mirrors to go with them, and a small stroboscope."

"Item, one portable laboratory," remarked Little. "Congratulations. Leo, I suppose you have outdone your brother?"

Leo Dennis, the twin brother of the first speaker, shook his head. "Just an old-fashioned manual razor. I'll start accepting offers tomorrow." Little smiled and fingered his chin.

"You're too late, unless someone brought scissors to start with. Safety razors weren't built to cope with a ten-day growth, more or less. Never mind, we may find a use for it—it's a cutting tool, anyway. Next?"

There was a pause, with everybody looking expectantly at his neighbor. Evidently the total had been reached. Little spoke again.

"Did anybody try to smuggle something and fail?"

"I tried to salvage Goldy's liquor, and had it taken from me," answered another man. "I guess they're firmly convinced it's lethal. I wish them luck in analyzing the stuff—we never could."

"How far did you get before they took it from you?"

"They let me pick up the bottles that were lying around, and put them in the case; half a dozen of them watched me while I did that. But when I started to carry the case toward the gate

—of course, that was some job, as Goldy found out—they all walked up and just took it away. They didn't get violent or anything like that."

"Then it wasn't really a case of detected smuggling; you made no effort to mask your real intentions. Is that right?"

"Yes, sir. I don't quite see how anyone could hide either that case or the bottles; I was just sort of hoping against hope."

Little nodded and called for more contributions. A gunner responded.

"I found a couple of cases of grenades and stuck several into my pockets. The next thing I knew, one of the starfish was holding my arms, and another taking them out again. He handled them as though he knew what they were."

"I suppose you checked the safeties before you pocketed the bombs?"

"Of course, sir."

Little nodded wearily. "Of course. And that was enough for our admittedly astute friends. I admit it's usually a very good idea to obey regulations, but there are exceptions to every rule. I think the present circumstances constitute an exception to most of them. Any others?"

Apparently no one else had seen anything he coveted sufficiently to attempt to sneak out of the piles. The doctor didn't care particularly; he believed he had enough data from that source, and an idea was rapidly growing. Unfortunately, the primary principle of that idea required him to learn even more, though not about his captors. Possibly the Vegans could supply the information, but Little was not prepared to bet on it.

Magill closed the discussion by mentioning the anæsthetic which Little had made available, and requesting an early communication of all ideas. The men withdrew into smaller groups, talking in low tones among themselves, and gradually drifted through the doors to their rooms, or out onto the roof. Magill followed to take a small group down again for the sleeping bags.

Little remained with the Vegans. He had a good deal to ask them, and material which could be covered in an hour of verbal conversation would probably take three or four hours of arm-waving. He sat just outside the fan of intense light from one of the doorways, and the creatures formed a semicircle just inside

—the door was wide enough for the four of them, since it had been constructed to admit the pentapods. The doctor opened the conversation.

"How long have you been here?" was his first question. It was answered by the individual who had acted as interpreter.

"Since our arrival there have passed about two hundred of the days of this planet. We are not sure just how long they are, but we believe they are about thirty of your hours. We have no idea of the length of time that elapsed between our capture and our arrival at this place, however. We were driving a small private ship on a sightseeing trip to a world which had recently been reported near the galactic center by one of our official exploring vessels, and were near its reported position when we were taken. They simply engulfed us—moved up and dragged our ship into a cargo lock with magnets. We were on their ship a long time before they put us off here and left again, and we were not allowed to obtain any of our belongings except food and ultraviolet lamps until we arrived; so we don't know how long the trip lasted. One of us"—the Vegan indicated the individual—"got up courage enough to venture onto the roof one night and saw what he thinks was the Galaxy; so we believe this world lies in the Cloud. You will be able to tell better for yourselves—you can stand the dark longer than we, and your eyes are better at locating faint details."

"You may be right. We were heading toward the Cloud when we were taken," answered Little. "How freely have you been permitted to move about this fort?"

"We may go almost anywhere above ground level," was the answer. "Some of these watchers"—a supple antenna gestured toward the ever-present guards—"are always with us, and they prevent us from taking the elevators any lower. Then there are a few rooms on the upper levels which are always sealed, and two or three which are open but whose thresholds we are not permitted to cross."

"How do they prevent your entering?"

"They simply get in front of us, and push us back if we persist. They have never used violence on us. They never need to; we are in no position to dispute their wishes. There is no comparison between them and us physically, and we are very much out of our natural environment."

"Have you been able to deduce the nature or purpose of the rooms from which you are barred?"

"We assume that they are control rooms, communication offices, or chart rooms. One of them contains several devices which look like ordinary television screens. Whether they are for long-range use or are merely part of a local system, of course we cannot tell." Little pondered for several moments before speaking again.

"You mentioned constructing several devices to aid in escape, only to have them taken away from you just before they were completed. Could you give me more details on just what happened? What were you doing, and at what stage were you interrupted? How did you expect to get away from the planet?"

"We did not expect to get away. We just wanted to make them go, so we could take over the fort. When we disconnected their tube lights to put in our own, he"—indicating the creature beside him—"managed to retain a sample of the tube. On its walls were absorbed layers of several gases, but neon was the chief component. We had smuggled in the neutrino converters and stabilizers from our ship"—and Keys said these fellows were helpless, thought Little—"and it occurred to us that we might set up a neon-oxygen reaction which would flood the place with ultraviolet. We had already noticed that they could not stand it any better than you. The half life of the process would have been of the order of twelve hours, which should have driven them out for a period of time ample for our purpose. A neutrino jet of very moderate power, correctly tuned, could easily have catalyzed such a reaction in every light tube in the place. We had built the projector, disguising it as another ultraviolet lamp, and were connecting the converter when about fifty of the guards dived in, took the whole thing away, and ran out before the lamps we already had going could hurt them."

Little heroically forbore to ask the creatures why they had not smuggled in their ship while they were about it and flown away. The Vegans wouldn't have appreciated the humor.

"I believe I understand the purpose of the actions of these creatures," he said. "But some of their characteristics still puzzle me. Their teamwork is perfect, better than that of well-trained human fighters, but if my idea is correct their technical knowl-

edge is inferior to ours. I have already mentioned to my captain their apparent lack of conceit—that is also based on my guess as to their motives in capturing us. One thing, however, I do not understand at all. How do they communicate? I have always been reluctant to fall back on the 'explanation' of telepathy; there are reasons which make me doubt that it can ever be a satisfactory substitute for a language."

The Vegans looked at him for a moment, astonishment reflected in the tenseness of their antennae.

"You do not see how they talk?" signaled one at length. "That is the first and only thing we have been able to appreciate in their entire make-up."

Little leaned forward. "Explain, please," he waved tensely. "That may be the most important thing any of us has yet ascertained."

The Vegans explained at length. Great length. The recital was stretched out by Little's frequent questions, and once or twice delayed by his imperfect comprehension of the Vegan language. The sun was low in the west when the conversation ended, but the doctor had at last what he believed to be a complete mental picture of the habits, thoughts, and nature of the pentapods, and he had more than the glimmerings of a plan which might set the human and Vegan prisoners free once more. He hoped.

He left his nonhuman allies, and sought out Magill. He found him at the western corner of the roof, examining the landscape visible beyond the tail of the spaceship. A couple of pentapods were on hand, as usual. Leo Dennis was making himself useful, sketching the western skyline on a pad he carried, with the apparent intention of marking the sunset point. Magill had evidently decided that an assistant navigator should be able to get his own location on a planet's surface as well as in space. Dennis was slightly handicapped by a total lack of instruments, but was doing his best. Little approached the quartermaster.

"Has anything new turned up, Keys?"

The officer shook his head without turning. "The men are all over the roof, to see if there are any ventilator intakes or anything else. One of them pointed out that the lack of superstructure suggested that the roof might be used as a landing place for atmosphere craft, and found some blast marks to back up the idea. No one else has made any worth-while reports. If there

are any aircraft, though, I'd like to know where they stow them."

"It might help, though I hope we won't be driven to using them. I suppose the boys have their eyes open for large, probably level-set trapdoors in the roof. But what I wanted to find out was: with whom am I sharing a room?"

"Don't recall, offhand," replied Magill. "It doesn't matter greatly. If there is anyone in particular you want—or don't want—to be with, you're at liberty to trade with someone. I told the boys that."

"Thanks. I want to spend some time with the Dennis boys, without making it too obvious. I suppose they're already together. By the way, seeing I'm still a medical officer, has anyone reported sick? The air is just a shade on the thin side, and we've been breathing it long enough for effects to show, if there are going to be any."

Magill shook his head negatively, and Little strolled over to Leo, who had completed his sketch and was trying to mark the position of the sun at five-minute intervals. He was wearing one of the few watches possessed by the party. He was perfectly willing to have his erstwhile roommate replaced by the doctor, especially when Little promised work to be done. He agreed to speak to his brother and to Cauley, who had originally been assigned to their room.

"Tell Arthur to bring his pack, with the kit he sneaked along," added the doctor. "We will probably have use for it." Leo nodded, grinning, and resumed his attempts to fix the position of an object, much too bright to view directly, which had an angular breadth on the order of half a degree. He didn't appear discouraged yet.

Little wandered off across the roof, occasionally meeting and speaking to one of the men. Morale seemed to be good, he noted with relief. He had always considered that to be part of the business of a medical officer, since it was, after all, directly reflected in the health of the men.

A motion in the direction of the setting sun caught his eye. He turned to face it and saw a narrow, dazzling crescent low in the western sky, a crescent that rose and grew broader as he watched. The planet had a satellite, like Mars, so close that its period of revolution was less than one of its own days. Little

wondered if a body so close to the planet might not prove useful. He filed the thought away for future reference.

The sun set as he watched, and he realized he had been right about the thinness of the air. Darkness shut down almost at once. The moon sprang into brilliance—brilliance that was deceptive, for details on the landscape were almost impossible to make out. Stars, scattered at random over the sky, began to appear; and as the last traces of daylight faded away, there became visible, at first hazily and then clear and definite, the ghostly shape of the Galaxy. Its sprawling spiral arms stretched across a quarter of the sky, the bulk of the system inclined some thirty degrees from the edge-on position—just enough to show off the tracing of the great lanes of dust that divided the arms.

The men began to drift toward the orange glow that shone through the entrance panels and windows of the "penthouse!" They were greeted by the whistle of Denham, who had just completed preparation of another meal. It was eaten as the first had been, in the corridor with a silent audience of guards. The men had grown used to the creatures, and were no longer bothered by their presence. The conversation was desultory, except when Arthur Dennis offered to take the place of Denham's helper for the evening. It was the most plausible excuse for entering the kitchen-storeroom, where the packs had been stowed. No one commented, though everybody guessed the reason.

Windows and doors of all rooms were left open, the first because of Little's advice, the second because the pentapods had removed all means of closing the entrances—privacy was impossible, which did not in the least surprise Little. At the conclusion of the meal, he accompanied Leo Dennis to the latter's room, which was near the end of the corridor farthest from the elevator, and waited for the arrival of Arthur. A little investigation solved the secret of turning out the room's tube lights, which darkened the place somewhat, but the light from the corridor was sufficient to move around by.

Arthur entered after about fifteen minutes, carrying three packs under his arms. Two of these he tossed to his brother and the doctor, remarking, "Pillows in one suite, anyway!" The other he retained. The three men rolled up the packs and placed them under the canvas at the heads of their sleeping bags, con-

scious meanwhile of the never-ending scrutiny from the door; then they leaned back against the wall and relaxed.

The twins had tobacco, and all three smoked as they talked. A remark of Leo's, which opened the conversation, eased Little's mind of one problem which had been bothering him.

"Before we do or say anything else, doc," said the navigator, "please think carefully before you tell us anything. I suppose you found out a good deal from the Vegans, and I wouldn't be surprised to know you have a campaign all mapped out; but I don't want to know more than necessary. I have developed, from what the Vegans said and from what I've seen myself, a very healthy respect for the intuition, or guessing powers, or whatever it is, of our silent watchers. It makes me uncomfortable. And the less I know the more natural I can let myself act. All right?"

"All right; that was my own idea, too," answered the doctor. "I will tell you no more than necessary. In the first place I should, like Magill, like to know our location on this planet and the planet's location in space. That, unquestionably, is your job, Leo. Then I want to get the information to the handiest United base or ship. That's all. I don't believe we could break out of here, though probably Keys will try. I pin my hope on our broadcasting a message from inside and letting people already outside do the rest."

The brothers nodded. "That's clear enough," said Leo, "and I can probably locate us fairly well if . . . Art, did you say you had a grating in that kit of yours?"

"Yes," was the answer. "Do you need it?"

"Uncertain, but probably. I'll have to identify the local navigation beacon somehow, and its spectrum will be the most outstanding hallmark. Why don't Doc and I go outside now and do some star-gazing, while you curl up in your sleeping bag and see if the shadows don't follow us? If they do, you can rummage in the kit without being seen, and come out in a few minutes with the grating and a couple of the lenses you mentioned. If they don't, we'll do what we can with the naked eye and come back. Sound?"

"Solid. Be seeing you."

Arthur extinguished the stub of his cigarette, loosened his belt and shirt, and began removing his boots, while Leo and

Little rose and went out into the hallway. Pentapods, scattered along the corridor, eyed them as they emerged, but made no move to intercept them. The door opening outside had been left ajar by the Earthmen in their policy of avoiding the use of the building's ventilation system, and the guards were evidently following a policy of noninterference with regard to everything but weapons. The panel was still partly open.

Little pushed it wide, and the two human beings went out onto the roof. To their surprise they were not followed; but both realized that there might already be guards on the roof. They moved out of the path of the light from the door and approached the nearest wall.

The mountains to the northeast were silhouetted against the almost equally dark sky; the forest at their feet was indistinguishable. No glow or spark of light suggested the presence, anywhere in the scene, of the men who had escaped nine hours before, though Little and Dennis strained their eyes looking. Not even a reflection from the river the doctor believed must be present broke the dark expanse.

The sky offered more material for comment. The Galaxy was lower in the west and the moon higher. Dennis, looking at the latter, did some rapid mental arithmetic. It had risen about an hour and a half ago, and would probably reach the zenith in a little more than another hour. Its sidereal period, then, must be about eight hours, and its distance, if this world had the same size and mass as Earth, a little over eight thousand miles from the surface. It was now nearly at "first quarter," but its dark side was faintly visible, presumably illuminated by the reflected light of the planet. Somewhat less than four hours after sunset, the satellite should enter the planet's shadow and be eclipsed for about forty minutes, unless its orbit were more highly inclined to that of the planet than appeared to be the case.

Little was looking at the stars, spread over the sky in unfamiliar constellations. "Which of these is the local navigation beacon, and how do you identify it?" he asked. "And why do you pick out one star to call a beacon?"

"It would be possible to obtain our position from any three stars whose location is on the charts," answered Dennis, "but it is much easier, as a rule, to use certain individuals, because

tables have been computed for use with them, and they are easier to identify. I don't have the tables with me, of course, but the beacon for this neighborhood and the Galaxy, together, would give me a fairly good idea. We use the brightest available stars for beacons, naturally—Rigel and Deneb in the Solar sector, for example. For navigation in the Larger Cloud we use a slightly different system, which employs two super-giant stars back in the Galaxy and the one local beacon which covers the whole Cloud—S Doradus. It shouldn't be hard to find, even without instruments, since it's a first-magnitude star at a thousand parsecs; but we always like to check the spectrum, if possible. Most beacon stars, of course, are O, B, or M supergiants, but there are usually detectable individual differences which can be picked out by a good instrument. We haven't a good instrument but fortunately S Doradus has a very distinctive spectrum.

Little nodded. "I can see that much. Don't tell me how you reduce the observations to get your position; it would certainly go beyond my mathematical limit, and I don't like to be shown up."

"It's not difficult—elementary spherical trig. If you know what a direction cosine is, you're all right. Matter of fact, that's how positions are indicated—three direction cosines from a given beacon, plus distance. I don't know how we'll get the distance—I can estimate brightness to a tenth of a magnitude, but that may answer to a small percentage of an awful distance. We usually can triangulate, but not in the Cloud."

"I'll take your word for it," replied the doctor. "Can you see anything that might be your beacon?"

"There's a fairly bright specimen sitting just above the north horizon, that seems to have a tinge of yellow; and there's another right overhead. If Art ever gets here with the lenses and grating I'll test them. I suppose he can't make it, since the dumb chums didn't follow us out here and give him a chance to burrow into the kit."

"He may find a way to do it, anyway," remarked the doctor.

"It would be just like him to try, and lose the kit," was the pessimistic answer.

Even Little was growing discouraged by the time Arthur finally arrived. They had been out nearly an hour. Little amus-

ing himself by strolling along the walls to see whether anything were visible below, and Leo observing the satellite as it approached the zenith. He had already come to the conclusion, from the fact that the sun had set practically "straight down," that they were near the equator of the planet. It now seemed that the moon was in the equatorial plane, since it was rising to a point directly overhead. It was well past first quarter now, but the unlighted crescent was still visible. Leo had just noticed this fact when Arthur's voice interrupted his pondering.

"I assumed you wanted the lenses for a telescope of sorts, and chose accordingly," said the technician. "It took me a long time to work the kit out of the pack and into the sleeping bag because the guards were looking in every two or three minutes. I don't know what will happen when they find me gone."

"I do, you chump," answered Leo. "Two or three of them will drift out here after us, and some more will seize the chance to investigate the pack whose position you changed so often."

"Think so?" asked Arthur. "Here are the lenses and grating. I brought the rod and lens clamps, too, but I'm afraid you'll have to get along without a tube." His brother accepted the assortment and fell to work. The doctor looked on silently. Arthur had brought a light also, and held it on the step which served as a workbench.

Leo, after a moment's thought, discarded one lens and used the other—the one of longer focal length. He clamped this at one end of the rod, with the plane side toward the center. The grating was smaller than the lens, and he clamped it against the plane face of the latter with the excess glass blocked off with paper. Another sheet of paper—a leaf torn from his sketch pad—was clamped to the rod at the focal distance of the lens, completing the crude spectroscope.

He set the instrument on the wall, propping it so that it was pointed toward the northern horizon and one of the stars he had mentioned. He leaned over it, to cut off the moonlight. The other two also leaned forward to see the results.

A little streak of color, narrow as a pencil line, was just visible on the paper screen. Leo brought his eyes as close as he could, striving to perceive the tiny dark gaps that should have existed; but the resolution of the instrument was not sufficient. After a

moment's pause, he returned to the original idea, removing the paper and clamping the other lens in normal eyepiece position. This proved successful. He could make out enough to identify both the stars he had counted on as unquestionably sun-type G stars, probably no more than a few parsecs distant, and definitely not the giant he sought.

The navigator began to wear a worried expression. There were several thousand stars visible to the naked eye, and only a few of them were obviously not the object of his search. After a few minutes, however, he began a methodical examination of all the brighter yellow and white stars, one after another. Arthur and the doctor saw that interruption would not be helpful, so they withdrew a few yards and conversed in low tones.

"What will you do if Leo does get our position?" asked the technician. "I suppose you have some idea."

"The idea I have depends almost entirely on you," answered Little. "I have been told that a second-order transmitter is less complicated than an ordinary radio. Could you build one?"

Dennis frowned and hesitated. "If I had all the materials and no interruptions, yes. Here and now, I don't know if the necessary equipment is available, and I'm reasonably sure we wouldn't be allowed to do it, anyway."

"You said there were two atomic tools in your kit, a heater and a stroboscope," said Little. "Would their parts be enough?" Once again Dennis paused to think.

"The welder wouldn't—it's just a converter and a tungsten element. The stroboscope converts with a direct electron current and a variable oscillator and—I believe it could be done. But it wouldn't handle much power, and the range would be nothing to speak of."

"That doesn't matter, as I see it. All I want to know is that you can build a vision transmitter with the material on hand—"

"Wait a minute!" interrupted Arthur. "I didn't say a vision unit. What do you need that for? All I was counting on was voice transmission. That won't be very difficult."

Little shook his head. "Vision or nothing. I don't want to tell you why, for the reason Leo gave. But please, if you don't want me to have to redesign the whole plan, find a way to construct a

vision transmitter. And I hate to be too exacting, but I'd like it done before that ship leaves again. I don't know how long they usually stay here, but I notice they're stocking up."

"Sure," groaned Dennis. "Right away. Doc, if it were anyone else I'd know he was crazy, but with you it's only a strong suspicion. I'll try—but Lord knows where I can come by an icon tube."

Little grinned invisibly in the darkness. "The Vegans said they smuggled up a complete neutrino assembly. It was taken away from them later, but it gives you an idea of what can be done."

"They didn't give you an idea of their technique, I suppose? I'm not too proud to learn."

"I didn't ask them. There were guards around. Good luck!"

Little went back to Leo, who was resting his arms. Not a single O class spectrum had yet been picked up by the instrument.

"If I were sure it were there, I wouldn't mind so much," he said, wiping his forehead. "But it's just as likely to be in the daylight half of the sky. I'd rather not have to wait here half of whatever time it takes this world to amble around its sun, just to get a rough idea of where I am."

Little nodded sympathetically—after all, he was the one who wanted their location. "Does the moonlight interfere any?" he asked.

"It did, until I made a rough tube out of paper. It's a little hard to hold together. But speaking of the moon, doc, have you noticed anything strange about it?"

"I wouldn't," answered Little. "Is something wrong? It looks natural to me."

"It doesn't to me. It did right after sunset, when it was a narrow crescent. We could see the rest of it then, but reflection from this planet could have accounted for that. But it doesn't now! The darn thing's nearly full, and you can still see the strip that the sun doesn't reach. This world can't possibly reflect enough light for that. What's lighting it up?"

"I'm afraid it's no use to ask me," said the doctor. "I can guarantee it's not radioactivity, because that much radioactive matter so close would have prevented the existence of life on this world. It would have been burned sterile; we'd probably be dead

now ourselves. I don't know any astronomy, but I can tell you all you want to know about gamma-ray burns."

"That occurred to me, too," agreed Leo. "It seems that there must be something, at present invisible to us, shining on that satellite. I think in a few minutes we'll be able to get an idea of where it's shining from, too."

"How?" asked Little and Arthur with one voice.

"The moon should pass into this planet's shadow very shortly," answered Leo. "A lunar eclipse. The satellite must have one every revolution—almost four times a day, I should say. The sun's light will be cut off, except for the fraction scattered by the atmosphere of this world, and we should be able to tell from the shape of the part illuminated by this mystery source, the direction of the source. We'll wait." The other two nodded. Even Little, who was no astronomer, understood the mechanism of an eclipse. The three settled themselves on the broad steps inside the wall.

They had not long to wait. It was about three and a quarter hours after sunset, and the first outlying tentacles of the looming Galaxy were just dipping below the western horizon, when Leo marked the first darkening of the eastern limb of the nearly full moon. It was not like the protracted lunar eclipse of Earth; the satellite was moving far more swiftly, and took less than a minute to travel its own diameter. There was a feeble, preliminary reddening as it plunged into the region illuminated only by air-scattered light; then this was gone, as the little body passed on into the umbra of the planet's shadow.

It should have disappeared. No possible reflection from the planet it circled could have given it a touch of illumination, for it looked down only on the night side of the world. Yet part of it was still to be seen—a ghostly, dim-lit crescent, a little less than half full, its convex side facing *east*. There was no possible question of the nature of the light source. Leo estimated the distance of the moon above the eastern horizon, and the angular breadth of illuminated surface; there was only a small difference.

"It will rise before long," he said. "I'm staying to see. You fellows can go back to sleep if you wish; we've been out over two hours and we'll need some sleep."

"We'll stay," said Little. "This gets interesting. Do you think

there's another, very bright, moon? Large enough, perhaps, to be habitable?"

Leo shook his head. "I don't believe any possible moon could do that," he said. Arthur nodded in silent agreement, and for many minutes the three sat without speaking as the dimly lit crescent dipped lower toward the eastern horizon. Leo had judged roughly that the eclipse should last about forty minutes.

It had not ended when Arthur pointed silently to the east. A spur of the mountain range whose principal peaks lay to the northeast had become a little clearer, silhouetted against a suddenly brighter patch of sky. The brilliance grew and spread, paling the stars in that quarter of the heavens as though dawn were breaking; and quite suddenly the source rode clear of the concealing hill and presented itself to view. The undulations of the landscape were abruptly visible, standing out against the long shadows cast by the light of the newcomer, which hung, far brighter than the moon at its best, just above the peaks.

The men looked on in awe. They had seen the mad splendor of the spiraling gas streams hurled forth from binaries like Beta Lyrae; they had driven through the hearts of globular clusters, with giant suns by the myriad on every hand; but somehow the lonely, majestic grandeur of this object was more impressive. A star—too distant to show a perceptible disk—too bright to be gazed at directly, putting to shame the surrounding celestial objects. Even the moon, sliding out of the shadow in an apologetic fashion, no longer seemed bright.

Arthur Dennis was the first to speak. "It gets you, doesn't it? I suppose it's a companion to the sun, or else—"

"Or *else*," said Leo flatly, snatching the spectroscope. The great star was white, with just a suspicion of topaz in its glow, and Leo was prone to jump to conclusions. One glance through the instrument, sweeping it slightly from left to right, was enough. He grinned, removed the eye lens, and replaced the paper screen of the original arrangement, and three heads bent once more to look at the streak of color.

It wasn't a streak this time. A single bright point centered itself directly behind the objective lens, and to either side of this there extended a broken series of dashes—the intense emission bands, bordered on the violet side by relatively sharp dark lines, which characterize what the early astronomers called a "P

Cygni" star. The continuous background spectrum was too faint to show; the grating was so coarse that several orders of the spectrum fell on the paper at once.

"And that's your beacon!" remarked Little after a few moments of silence. "Well, it certainly earns the name."

"You can get our location now?" asked Arthur. I should think you wouldn't need to say much but 'Near S Doradus,' from the looks of that thing."

"Wrong, blast it," answered Leo. "When I said I could judge brightness to a tenth of a magnitude, I was thinking of decent stars with visual mags between zero and plus six. For this thing, I don't know whether it's minus five or minus fifteen—whether the blasted thing is three quarters of a parsec or eighty parsecs away. I'll get the direction, though, and maybe I'll find a way to measure the brightness. I'll look after that; you people worry about what to do with it if I get it. Good night."

The dismissal was rather pointed, and Leo turned his full attention to the pad on which he was computing, so Little and Arthur silently retired. So did all but one of the guards who had been watching, invisible in the shadow of the superstructure.

Dr. Little opened his eyes with a start and realized it was full daylight. It had been the first sleep under normal gravity in several weeks, and his body had made the most of it. The other two sleeping bags were empty, but the Dennis brothers were both present. They were by the window, removing a piece of canvas that had apparently been draped across it. Little sat up.

"What are you fellows up to now?" he asked. "Leo, don't you ever sleep?"

"Sure, when necessary. You have been sleeping for twelve hours, doc. Did we wake you up?"

"Twelve hours! No, it was probably my conscience. What's the idea of window curtains? We haven't even a door, so it can't be privacy."

"We were screening out the sunlight Leo didn't want," answered Arthur. "He was trying to get the sun's spectrum, and just wanted a narrow beam through the grating."

"Did you get it?"

"Sure." It was Leo speaking again. "And we found a use for

the razor. The edges of the blades are good for making a slit for the beam. This fellow, of course, didn't have anything in that wonderful testing kit that would do. By the way, Art, have you still got the kit, or did our friends take it last night?"

"Someone poked around in it," Arthur answered, "but they left it here. Maybe they thought there was nothing in it that we could put to use."

"I think they would have left it, anyway," remarked the doctor, grinning at the expressions of unbelief on the two faces.

Leo walked over to his brother's sleeping bag and took the kit box from the pack. "You know best, doc. In that case, I'm going to have a look, and find out if there's anything useful that Art forgot to mention— Art, you dope!"

"What's wrong now?" asked the technician, without moving.

"The welder and the stroboscope you spoke of—they're gone! And you said the guards must have decided the stuff was harmless. What do we do now?"

"The welder and stroboscope are in my pockets, and have been since last night. You thought of the stuff's being taken, didn't you? And did you *ever* think of anything without my beating you to it? You worry about your own department; I can take care of mine, I hope." The last phrase was stimulated by an amused glance from the doctor.

They strolled out into the mixed crowd of humans and pentapods in the corridor, and Arthur went over to the kitchen. He appeared to have taken on permanently the job of cook's helper. Little located the quartermaster, and began discussing the day's possibilities. They seemed to be few. Most of the crew were specialists of one sort or another, experts in the fields of knowledge and activity necessary to fly and fight an interstellar cruiser; but one and all were hampered by lack of materials and tools. The only way to get these appeared to be theft, at which the crew of the *Gomeisa* were not specialists. The only advice Little could give was that the men should do their best to smuggle in materials, to the exclusion of other occupations, and anyone who had a workable idea should let the others know what he needed to work it. Not very helpful, since everybody already had that idea. It looked as though time would pass rather boringly.

It did. The men wandered more or less freely about the roof

and the corridors of the building below, and occasionally went out to the supply piles for material they wanted. To Magill's surprise, but not to Little's, they were allowed to take even pieces of scientific apparatus without interference.

"I don't get it," said the quartermaster when a man reported bringing in a portable atomic melting furnace. "Anyone could see that that was a dangerous tool in the hands of a prisoner. Why do they let us get away with it?"

"To me," answered Little, "that is the least puzzling factor. The treatment we are getting shows that there can be only one reason for our capture—to learn from us. Naturally, we must be allowed access to tools and scientific equipment. Then they watch our efforts to escape, and help themselves to the results of our labor. What is so puzzling about that?"

Magill was silent for several minutes. "Put that way," he said at last, "it's obvious. I don't know why I didn't think of it before. That, I suppose, is why you said they weren't a conceited race—they go to such lengths to take the knowledge of others. But what happens if they're a little slow in taking a weapon away from us?"

"Apparently they are prepared to take that risk. They have succeeded so far with the Vegans, and they have all our standard weapons, you'll note. That ability of theirs to guess the purpose of our actions is our chief bugbear. It's unusual; most of the time it's almost impossible for two races meeting for the first time to understand even each other's standard gestures, let alone natural, unstereotyped face and body motions. But do your best with that in mind."

Little did not say that, with the aid of the information given by the Vegans, he had been able to deduce the reason for the almost telepathic guessing ability of the pentapods; and he did not mention the plan that he and the Dennis brothers were trying to put into operation. If Magill went ahead with ideas of his own, it would probably occupy much of the attention of their guards. Not that Little wanted it *all* occupied.

The reports of the men who had wandered through the building agreed with the statements of the Vegans—most places were permitted, below ground was not, some rooms were locked, and some were open but the men had been kept out. One room, on

the top floor almost directly below the prison quarters, appeared to be a communications office—which was a natural situation, if the roof had originally been used as a landing platform. The purpose of most of the others was not clear. Little did some wandering himself, and personally checked most of the information.

That evening the Vegans ate with the men; their own supplies had given out long before, of course, and they had been living on food supplied by the pentapods. It was evidently harmless, but far from enjoyable, according to the Vegans. Arthur Dennis served the food to them at their doorway, and brought the mess kits back to the kitchen after the meal. The guards usually withdrew some distance while the men were eating; the odors evidently did not appeal to them. Consequently, there was none of the creatures in the kitchen when Arthur brought back the kit. His self-assigned position as cook's helper was becoming constantly more useful, he reflected.

Days in prison tend to be rather boring. Nights are better because one can sleep and forget the boredom for a while; but from this night on Arthur Dennis knew he would sleep very little, though he planned to trade his sleeping bag for one several sizes larger and retire completely into it. He decided to develop the habit of keeping his face partly covered by the canvas flap, and have his companions emulate him to make the action seem more natural. He was jubilant when the others came to the room.

"I have an icon tube, doc," he said from the depths of the sleeping bag. "That's what worried me most. I can build the second-order converter from the stuff I already had, and I can probably dig up enough from the other boys to make the tube connections. It's lucky they let us keep the hand lights. I don't know how I'd put this stuff together in the dark."

"How did you get the tube?" asked Little. "I didn't see you go downstairs all day, and I don't think many of the men knew about the guards' having let a good deal of apparatus by without trouble, so they wouldn't have done it for you."

Arthur grinned in the darkness. "Since I didn't have the Vegan technique we mentioned, I bet one of the Vegans fifty Union credits it couldn't be done—thus implying my doubt of his story of smuggling up a neutrino unit. He slipped it into his

mess kit this evening after the meal, and I got it in the kitchen. He was a little touchy about my rudeness, but I apologized this evening and he's cooled off. I pay the bet if and when we reach a Union planet and can get some money." The technician ceased speaking, and the flap fell again across the opening of the bag.

Silence fell throughout the room, broken by the even breathing of two people and the occasional almost inaudible footfalls of the guard outside. Once or twice a shadow fell across the doorway as one of the creatures looked in, but it defeated its own purpose by blocking the light, and saw nothing. Dennis was careful, anyway, and allowed no motion to show through the padded canvas of the sleeping bag.

He was not interrupted that night, and worked for two or three hours before placing the partly completed unit in his kit and going to sleep.

The next morning it occurred to Little that the Vegans might have some idea of the probable length of stay of the ship. After the morning meal he squatted in front of the doorway of their quarters and questioned the creatures.

"They usually remain about ten days," was the answer. "But it is impossible to tell for sure. This is the first time prisoners have been brought since we came. We didn't notice how long they stayed on our arrival—we were too worried about other things."

"How long do they remain away, usually?"

"There is no 'usually' about it; the duration is absolutely unpredictable as far as we can see. Sometimes the ship is gone for only a day, sometimes for several weeks. It is evidently not a patrol cruiser with a regular beat."

Little thanked the creature and left, to ponder the effect of the new facts on his plans. He returned almost at once, to ask another question:

"Does the garrison of the fort appear to expect the ship at any time before its actual arrival?"

"Not obviously, if at all," was the answer.

Little nodded, satisfied. He sought out the Dennis brothers. Leo was in their sleeping room, trying to manufacture a photometer from the lenses of a pair of dark goggles an atomic engi-

neer had found in his pocket. The doctor located Arthur and brought him back to the room, and asked if either one knew anything about geletane.

"Not much," answered Leo. "I gathered that it was more than an ordinary anæsthetic when I heard you had lived through an exposure to space while under its influence."

"Right," nodded Little. "It produces, to put it crudely, suspended animation. It is adsorbed, apparently, on all the cell surfaces in the body, foreign bacteria included, and seals them from chemical influence. One would expect that to produce death, since the destruction of the gas film could not start the vital processes again; but the patient always revives. I could put my finger on ten different theses in the New York Medical Library, each suggesting a different mechanism and none completely satisfactory. The film, when it breaks, seems to do so everywhere at once, and there is an abnormal amount of carbon dioxide in the blood immediately thereafter; but the whole process is not thoroughly understood.

"It seems, however, that the cell walls themselves tend to cause the breakdown of the film; and if a person exposed to the gas is exercising violently, that action is increased to a point where he is *not affected at all.* If he holds his breath, and otherwise suspends body activity, it gets him almost instantly. The gas, as you can see, has an all-or-none nature. I wanted you to understand this, because it is possible we may have to use the gas in the near future. Think it over." The brothers kept their faces nearly expressionless, but it was perceptible that they thought the matter over with some pleasure. Arthur, slightly the more imaginative of the two, immediately assumed that the gassing was to take place when the communicator was finished, so that they would have a chance to use it.

With this pleasant prospect in mind, Arthur worked even longer that night. The converter was completed, and he began to construct a support for the tube and its connections before he was forced to sleep. Again, his work apparently went undetected by the ever-prowling guards. His hopes showed so clearly on his face the next morning that his brother kicked him firmly and ungently in the shins as a reminder of the unbelievable expression-comprehension of the pentapods.

He reported to Little that the device would probably be completed that night. The doctor nodded and said:

"Good work, Art. We probably had another week before the ship left, but this is better than I expected. As soon as Leo gets his photometer done and finds our distance from S Doradus, things should start to pop; and that should be fairly soon." In this statement Little was half right; things started happening quite soon, but they did not wait for the navigator's mate to complete his tasks.

The doctor found Leo seated on one of the steps which lined the outer wall. He was examining closely an object, consisting chiefly of several small fragments of darkened glass, which proved to be his photometer; and like his brother, he was obviously in good humor.

"All done, doc," he said on sighting Little. "I can measure tonight—calibrate this thing on stars I can estimate, and then do the beacon. It's lucky I already know its absolute magnitude. What do you think are the chances of that gadget of Art's reaching a United receiver?"

Little smiled without speaking, and shrugged his shoulders. His opinion was that the question was unimportant, but it would not do to say so. He might be misunderstood. He fully believed that they would be caught the moment they attempted to start broadcasting. Without committing himself, he admonished Leo not to lose the photometer, and went in search of Magill.

To that officer he spoke earnestly for several minutes, making several requests which were granted only after persuasion. One of them had to do with the disposal of kitchen waste, and for once the doctor's interest was not in sanitation.

The rest of the day passed in as boring a fashion as had the two preceding.

Evening found the three conspirators in their room, planning the night's activities. Arthur, of course, would remain to "sleep." They found difficulty in deciding whether Little should remain with him, or accompany Leo on his astronomical expedition. If he went without an obvious purpose, the guards might wonder why he was the only curious sightseer and why Arthur didn't go, too; if he remained, they might wonder why he behaved dif-

ferently from the previous occasion, and investigate the sleepers. Even the insight Little had gained into their thought processes could throw no light on this question.

Finally, he accompanied Leo, carrying the latter's pencil and pad to provide himself with an excuse. As on the previous occasion, none of the gurads followed them through the door. They took up their former station by the wall and seated themselves on the steps until S Doradus should rise. The moon was only a little past first quarter, and the beacon would not rise tonight until some two hours after the eclipse, so they had a wait of nearly four hours. They had chosen to come out early, to avoid falling asleep and missing their chance.

For the first time since their arrival on the planet, there were clouds in the sky. These provided matter for conversation and anxiety for nearly three hours as they completely covered the heavens on two occasions; but by the time the waning moon was sinking low in the east they had disappeared. The remaining time before observation could be started was passed in silence.

As the glow on the eastern horizon warned of the mighty star's advent, Leo went to work. Each of the fragments of glass he had obtained from the engineer's goggles was tested in turn, a star viewed through the darkened glass being compared with another seen directly. Little noted the results on the pad, though there was little need. The lenses had originally been very evenly darkened, and as nearly as Leo could estimate, a single thickness of the glass cut about three and five-tenths magnitudes from the brightness of an object.

When the beacon rose, his only task was to find the number of layers necessary to reduce its apparent brightness to that of a star lying in the range where his own judgment was good. The method obviously gave room for error, which increased with each additional thickness used, but it was better than guessing; and anyway, as Leo remarked, since S Doradus is an irregular variable, the best instruments in Civilization would still have left them with a probable error of over half a magnitude.

He measured and computed. "Art was almost right, at that," he remarked finally. " 'Near S Doradus' would almost be enough. I get an apparent magnitude of minus fourteen, which means a distance of just under one parsec." He took a fresh sheet of pa-

per from the pad and wrote rapidly. "There," he said, handing it to Little, "is the complete specification of our position, to two decimal places—I can't guess closer. It also includes the type of this planet and sun in standard terms, and a rough idea of our latitude on the planet. If you broadcast that and anyone hears you, they'll find us."

"And he can go right ahead and broadcast it, as soon as the rubbernecks are out of the way," broke in a new voice. "The gadget's done. I haven't tested it, naturally, but it can't help working. Say the word, doc."

Little shook his head. "Not tonight. We must arrange some way to keep the broadcast from being too obvious. Come on to bed and we'll talk as we go. It would be too bad to slip up now."

They arose and walked slowly toward the lighted doorway.

"It seems to me that we only need to gas the guards in the immediate neighborhood, and lock ourselves into the quarters with them outside. There are no outside catches on the main doors, and I could seal the elevator panel with the welder—I didn't use it for the broadcaster, and it should stand the overload long enough."

They passed into the corridor. "That might work," mused the doctor. "There is only the one elevator, and no other entrances to the roof, from below, anyway. But we'd want as many hours as we could get, and I should think they could burn out the elevator door in a few minutes."

They entered the room in which they slept. "That could be prevented by simply leaving that door open when the elevator was up and going into action at that time," contributed Leo as they pulled off their boots. "Then they couldn't get at either the elevator or its door."

"How about the other men?" asked Little. "It will be difficult to tell them all about the geletane, and how to avoid its effects. What will—"

"Stop worrying about it," interrupted Arthur. He had lain down with the pack for a pillow, moved it to a more comfortable spot, noticed the ease with which it moved and, with a horrible suspicion in his mind, looked into the kit box inside. "The communicator is gone."

Possibly the guards in the corridor and on the roof were laughing, if their unhuman cerebral processes had ever evolved an emotion akin to humor. Certainly, they were pleased with themselves.

"You loon," growled Leo. "Why did you have to celebrate finishing the thing by tearing outside to tell us? It would have been simpler just to step outside our door and hand it to a guard."

The night had not passed too peacefully, in spite of Little's advice to save recriminations until morning. Relations between the twins were slightly strained. The sunlight coming through the window revealed only too clearly on Leo's face that expression of smug, "I wouldn't do such a thing" superiority that tends to drive repentant sinners to homicide.

"The meeting will please come to order," interrupted the doctor. "Leo, lay off Arthur. If it will make you any happier, Art, I'll tell you that if neither of you boys had spilled the beans in a day or two, I should have done so myself—carefully, of course. It was better for it to happen naturally. Now sit around, and wear a disgusted expression for the benefit of the guards if you like, and listen. This will take some time.

"In the first place, I suppose you've realized by now that we were captured simply for observation purposes; the pentapods hoped to learn about our weapons and science from our efforts to escape. They have, we must admit, been rather successful. Our activities have probably been evident to them from the first, but they waited until the communicator was completed before taking it, naturally. That habit of theirs struck me when the Vegans first described the way in which their plans were never interfered with until nearly mature.

"There was also the question of the surprising ease with which they were able to divine our feeling and intentions. It took me longer to discover the reason for that; but information supplied by the Vegans again provided the key.

"Their language is not verbal. None of us has yet heard them utter a vocal sound. We couldn't understand how they communicated, but to the Vegans it was so evident as to be unworthy of comment—their captor's language was of the same type as their own, visual rather than audible, a sign language in which the thousands of mobile spines with which their bodies

are covered replaced the two antennae of a Vegan. It was so complex that the Vegans couldn't begin to learn it, but the method was obvious to them.

"That, to me, gave a nearly complete picture not only of their language, but of their thought; not only of the way they exchanged ideas, but of the very nature of those ideas.

"You have heard, no doubt, that thoughts may be considered as unuttered words. Of course, we do think in visual images, too, but *logical reasoning*, in human minds at least, takes the form of an unuttered conversation with oneself. Think through the proof of a theorem in grade-school geometry, if you don't believe it. With creatures like the Vegans, an analogous process takes place; they think in terms of the visible symbols of their language. The language, as you know, is slow—takes much longer to get ideas across. Also, it takes longer for a Vegan to comprehend something, though they certainly can't be called stupid.

"The same thing should happen, and does happen with our captors. They think and talk immeasurably *faster* than we do; and their thoughts are not in arbitrary word or picture symbols, but in attitudes. Watching them, I have come to the conclusion that they don't have a language as we understand it at all; the motions and patterns of the spines, which convey thought from one to another, are as unconscious and natural as expressions on our faces. The difference being that their 'faces' cover most of their bodies, and have a far greater capacity for expression. The result is that they have as easy a time learning to interpret expressions and bodily attitudes of other creatures, as we would have learning a simple verbal tongue. What the psychologists call attitude—or expression, to us—is the key to their whole mental activity. Until we understood that, we had no chance of using their own methods to defeat them, or even of understanding the methods.

"When Albee and the others made that break, you noticed that the pentapods wasted no time in pursuing a man who was even slightly out of reach; they were able to reason with extreme rapidity even in a situation like that, and realized that they couldn't catch him. A man would have tried, at least.

"Like everything else, this high-speed communication has its

disadvantages. These creatures could never have invented the telephone, any more than the Vegans could; and they'd have had the same difficulty with gadgets such as the telegraph. I don't know anything about their written language, but it must be ideographic and contain, unless I underestimate their capacity for bringing order out of chaos, a perfectly appalling number of symbols. Who could make up a dot-and-dash code for that? The Orientals of Earth had the same trouble. That would interfere with the 'evolution' of communication devices.

"Their long-distance communication, therefore, must be purely visual transmission. We have seen the television screens in their office downstairs—ten feet square, enough to picture any of the creatures full length. I'm sure that they can't broadcast their vision for two reasons: the Vegans say the ship always returns unexpectedly, and preparations are never made a few hours in advance of its arrival—as they would be if they could broadcast news of their approach. Also, there is no sign anywhere on this building of a beam type second-order projector, or even the loop of a general field broadcaster such as Art was making. The images are transmitted by wire, and only inside this building. That was the reason, Art, that I insisted on your making a visual transmitter. They would have no desire to copy a telephone unit. They have it now; they'll have a full-size visual before that ship leaves; and their communications room is right below here, and should contain emergency accumulators in case the regular power goes.

"When the ship leaves, we wait a day. Then we collect the kitchen refuse, which Denham is accumulating, and pile it into the elevator to take outside—Leo, get that happy expression off your face—making the load big enough so that none of the guards can ride with us, though they don't usually these days anyway. Just before we go, the stove will break down, and Denham will come kicking about it. Arthur will go back, tinker with the stove, remove the geletane tank now clamped to it and replace it with another, and toss the 'used' tank in with the rest of the waste. The elevator will descend one floor, and we will emerge with the tank open. We will *run* toward the office, which is just down the hall, in order to avert the effects of the geletane by activity; we will hold handkerchiefs over our faces to let the guards know we have gas, and hold their breaths. Two of us will

enter the communication office, while the third will remain outside to destroy the door control. He can spend the rest of his time welding the door shut, until that welder gives out.

"The guards and operators inside should be under the influence of the gas by then, and will be thrown out before the welding starts. The two of us who are inside will keep exercising until the ventilators clear the air in the room; then we can use the vision transmitter to our heart's content, until the starfish can bring up heavy tools and burn through the door. There are a dozen United bases within five hundred parsecs, even I know; and five minutes should be ample to contact one of them and give our situation.

"Art, did you really think I hoped to get anywhere with that pint-sized thing you built? The pentapods have us here so that we can build equipment for them; I decided that turn about was fair play. I only hope those infernally quick minds of theirs don't grasp the fact that two can play at one game. In case they should, I think we had better start working with Magill on whatever plan he has evolved; that will keep us occupied, reduce the chance of our betraying our secret, and may prove a valuable second string to the bow if our plan falls through. Let's have breakfast."

Little had spoken lightly of "working in" with Magill on whatever plan of escape that worthy might have evolved; at breakfast he discovered that no less than four lines of attack were being developed simultaneously. The quartermaster was hoping that one of them would go undiscovered long enough to reach a climax. He had not divided the men into separate groups for each job; the idea was to confuse the guards by having everybody work on all the plans at once. Confusion had certainly resulted, though none of the pentapods showed the symptoms. Little, first making sure that his own private plan would not be affected by any of the others, plunged joyfully into the conflicting tasks of (1) finding and using one or more of the aircraft which Magill was positive were stored beneath the roof; (2) getting an armed party of human beings into the interstellar flier of the pentapods; (3) carrying out the original Vegan plan of flooding the building with ultraviolet light without at the same time forcing out the men; and (4) locating an arsenal of the pentapods and

simply clearing a section of the building by brute force. Magill intended to use whichever of these plans first attained practicability.

Four days were spent in this fashion. Work at least prevented them from being as boring as the preceding three, though little or no progress was made. On the morning of the fifth day, however, just after the morning meal, an event occurred which opened a fifth line of procedure, and almost caused Magill to abandon the others.

One of the men had gone out onto the roof; and the others were attracted by his cry. Little, following the others to the edge of the roof, looked over; and was rewarded with a clear view of nothing at all. The line of pentapods which had been loading supplies into the vast cruiser was not to be seen, and the vessel's ports were closed. The men watched silently and expectantly, reasonably sure of what was to happen.

Perhaps ten minutes passed without a word being spoken; then, without sound or ceremony, the tremendous cylinder of metal drifted lightly upward. The men followed it for a short distance with their eyes; they might have watched longer, if their attention had not been distracted by an object revealed by the cruiser's departure.

Just beyond the depression in the soil left by the great ship there appeared a second, much smaller, silvery metal torpedo; and a howl of surprise burst from almost every human throat on the rooftop. It was the *Gomeisa*, her ports open, apparently unharmed, and—apparently deserted.

For several seconds after that involuntary expression of astonishment there was dead silence; then Magill spoke.

"This puts a new light on the situation. Don't do anything rash until we decide just how this affects our position; our plans will certainly need modification. I'll be in the market for ideas all morning; we'll have a general discussion meeting after dinner." He turned away from the edge and walked back toward the doorway.

Denham had long since been coached in his part, he played it without a hitch. The load of refuse and the tank of geletane were tossed into the elevator; the three men followed. No guards entered; since the departure of their ship they had concentrated

on guarding the lower doors rather than preventing the prisoners from wandering about the fort. Little slid the door of the cage closed and touched the button next to the top, and Arthur took the welder from his pocket.

Slow as it was, the car took but a few seconds to reach the next level. It stopped; Little looked at his companions and slid open the door, at the same instant opening the valve of his gas tank. The three dashed into the corridor and toward the office, handkerchiefs pressed over their mouths and noses.

Two pentapods stood at the open door of the communication room. They swept instantly toward the approaching men, but must have conversed with others inside the room even in that time, for three more emerged after them.

Fast as the men were running, the gas diffused ahead of them; and the rearmost guards, who were moving more slowly than the others were paradoxically, the first to go down under the invisible attack. The others heard them fall, deduced the cause, presumably held their breath—and dropped as though shot. The men hurtled into the room, Little still leading, and found it empty. Evidently the communication officers had joined the guards and, confident of their ability to overcome three human beings, had not even sounded an alarm.

Leo Dennis leaped toward a mass of equipment that was all too plainly of recent installation; Little reversed his motion, snatched the welder from Arthur's hand, and darted back through the door.

"I'll look after this end," he said, "and saturate the air in the corridor while I'm at it. I'm more used to gas and can probably avoid its effects longer than you, Art." He slid the metal portal shut with a clang, tossed the still-open gas cylinder across the hall, and set to work with the welder. He jumped up and down, kicking, dancing, and waving his free arm as he worked; but the hand holding the torch remained steady.

Reluctantly, the metal of door and frame fused and flowed under the heat. The tiny lever that had actuated the opening mechanism dripped away. Slowly a glowing line of red marked the edge of the door and extended around it, a line that did not cease its slow growth as a dozen guards raced around a corner and collapsed as one the moment they paused to take in the situation. One, at least, must have been far enough behind to

signal to others; seconds later, another group, clad in transparent, baggy air suits, sped into sight. At almost the same instant the little torch expired.

Little straightened, dropping the instrument, and saw the approaching guards. He turned to run toward the elevator, and saw another group rapidly approaching from that direction. Knowing the futility of the attempt, he tried to dodge past them; one swerved, reached, and an instant later he was pinned motionless as he had been once before in the first break for freedom. But he was still in the region of geletane-impregnated air.

Dr. Little opened his eyes with that peculiar feeling of having done the same thing before. This time memory returned almost instantly; he struggled to his feet, helped by the men clustered around him. He was on the roof of the fort where a stiff breeze had cleared the last of the gas from his lungs and cell walls. No guards were in evidence.

"How did it go?" he asked, seeing the grinning features of the Dennis brothers beside him. "Did you get through?"

"We did. It took them nearly an hour to get heavy tools and cut in—after all, we had control of their local 'telephone' central. They must have called their own ship back at once; it came in ten minutes ago, and they're rushing stuff aboard. I think they're going to abandon this place before help arrives for us. The Ardomese I talked to promised a squadron in fifteen hours.

"I wish that starfish ship had been farther away—we might have been able to take some prisoners of our own. But I'm afraid they'll have time to clear out."

"You're not annoyed, are you?" asked Little. "After all, they didn't hurt you fellows when they found you in the communication room. I think they're rather good sports, myself. After all, they've been risking all along the chance that we might do just what we did; they haven't hurt anyone; and the *Gomeisa* is not seriously damaged."

"Nevertheless, they committed an act of war against the Union," cut in Magill, "and they have stolen a lot of valuable information. The *Gomeisa* carried stuff that could make them dangerous enemies."

"They have had plenty of time to duplicate that armament,

and unquestionably have done so," returned Little, "but they seem to have no intention of staying and using it on our ships. I think their curiosity was purely academic; perhaps this was all a game to them. In any case, I can't make myself feel anger toward them. I'm curious, myself, and personally I rather like the creatures. You can make yourself do the same, Keys; the whole thing is only a question of attitude." The doctor traded knowing winks with the Dennis brothers.

The Ionian Cycle

BY WILLIAM TENN

THE TINY lifeboat seemed to hang suspended from its one working rear jet, then it side-slipped and began to spin violently downwards to the sickly orange ground of the planet.

Inside the narrow cabin, Dr. Helena Naxos was hurled away from the patient she was tending and slammed into a solid bulkhead. The shock jolted the breath out of her. She shook her head and grabbed frantically at an overhead support as the cabin tilted again. Jake Donelli glared up from the view-screen where the alien earth expanded at him and yelled across the control table:

"Great gravities, Blaine, soft jet! Soft jet before we're pulped!"

The tall, balding archaeologist of what had once been the First Deneb Expedition waved tremulous hands at the switches before him.

"Which—which button do you press?" he quavered. "I f-forget how y-you soften those forward things."

"You don't press any—oh, wait a minute."

The spaceman tore the restraining straps away and bounded

out of his seat. He seized the projecting edges of the table and made his way strainingly around it as the lifeboat spun faster in great swoops.

Dr. Archibald Blaine was squeezed against the back of his chair when Donelli reached him.

"I forgot the button," he mumbled.

"No button, doc. I told you. You jerk this toggle—like so. You haul this switch over—like so. Then you turn the little red wheel around twice. Does it. Whew! Now things are smoother!"

Donelli let go of the table as the forward softening jets caught on and straightened the vessel into a flat glide. He walked back to the main control bank, followed by Blaine and the woman biologist.

"The sea?" Helena Naxos asked at last, lifting her eyes from the view-screen. "That *is* the sea?"

"Nothing else but," Donelli told her. "We used up all but about a cupful of fuel trying to avoid falling into this system's sun—if you can call two planets a system! We're operating the cupful on the one main jet left unfused when the *Ionian Pinafore* blew up. Now we've overshot the continent and riding above the sea without a paddle. Good, huh? What'd he say the sea was made of?"

Dr. Douglas Ibn Yussuf propped himself on his uninjured elbow and called from his bunk:

"According to the spectroscopic tabulations you brought me an hour ago, the seas of this planet are almost pure hydrofluoric acid. There is a good deal of free fluorine in the atmosphere, although most of it is in the form of hydrofluoric acid vapor and similar combinations."

"Suppose you save some of that good news," Donelli suggested. "I know all about hydrofluoric acid being able to eat through almost anything and its grandmother. Tell me this: how long will the Grojen shielding on the hull stand up under it? An estimate, Doc."

With puckered brow, the Egyptian scientist considered. "If not replaced, say anywhere—oh, anywhere from five terrestrial days to a week. Not more."

"Fine!" the pale spaceman said happily. "We'll all be dead long before that." His eyes watched the view-screen.

"Not if we find fuel for the converter and tanks," Blaine reminded him sternly. "And we know there's contra-Uranium on this world—a little, at any rate. The spectroscope showed it. That's why we headed here after the disaster."

"So we know there's fuel here—good old compact Q. Okay, if we landed on one of the continents maybe we'd have scratched a miracle on the chest and found some Q before the converter conked out. Then we could have repaired the other jets and tried to get back to a traffic lane, powered up the transmitter and radioed for help, done all sorts of nice things. But now that we're going to do our fall on the first island I see, what chance do you think we have?"

Blaine looked angrily at his two colleagues and then back at the small, squat spaceman with whom destiny and a defective storage tank aboard the *Ionian Pinafore* had thrown them.

"But that's ridiculous!" he said. "Landing on an island will reduce our chances of finding contra-Uranium from an improbability to an impossibility! It's rare enough in the universe, and after we've been fortunate enough to find a planet containing it, Jake, I demand—"

"You demand nothing, Doc," Donelli told him, shoving belligerently up against his lean academic frame. "You demand nothing. Back on the expedition ship maybe the three of you were big-time operators with your degrees and all, and I was just Jake—broken from A.B. to Ordinary Spaceman for drunkenness when we lifted from Io. But here, I'm the only man-jack with a life-boat certificate and the laws of space put me in supreme command. Watch your language, Doc: I don't like to be called Jake by the likes of you. You call me Donelli from here on in, and every once in a while, you call me *Mr.* Donelli."

There was a pause in the cabin while the archaeologist's cheeks puffed out and his frustrated eyes tried to pluck a reply from the overhead.

"*Mr.* Donelli," Helena Naxos called suddenly. "Would that be your island?" She gestured to the view-screen where an infinitesimal blot upon the sea was growing. She smoothed her black hair nervously.

Donelli stared hard. "Yeah. It'll do. Suppose you handle the forward jets—uh, Dr. Naxos. You saw me explaining them to

Blaine. I wouldn't trust that guy with a falling baseball on Jupiter. 'I forgot which button,' " he mimicked.

She took her place on the opposite side of the control table as Blaine, with tightened facial muscles, went over to Ibn Yussuf's bunk and whispered angrily to the injured man.

"You see," Donelli explained as he moved a lever a microscopic distance. "I don't want to hit an island any more than you folks do, Dr. Naxos. But we can't afford to use up any more fuel crossing an ocean as big as this. We may be able to make another continent, yes, but we'll have about fifteen minutes of breathing time left. This way, the converter should run for another two, three days giving us a chance to look around and maybe get some help from the natives."

"If there are any." She watched a dial needle throb hesitantly to a red mark. "We saw no cities on the Telescanner. Although, as a biologist, I confess I'd like to investigate a creature with a fluorine respiration. By the way, Mr. Donelli, if you will allow me to call you Jake, you may call me Helena."

"Fair enough—hey, you watching that dial? Start softening jets. That's right. Now over to half. Hold it. Hold it! Here we go! Grab something everybody! Dr. Yussuf—lie flat—flat!"

He flipped the lever over all the way, slammed a switch shut and reached frantically for the two hand grips on the control table.

An emery wheel seemed to reach up and scrape the bottom of the hull. The emery wheel scraped harder and the whole ship groaned. The scrape spread along the entire bottom half of the life-boat, rose to an unbearably high scream in sympathy to which every molecule in their bodies trembled. Then it stopped and a vicious force snapped their bodies sideways.

Donelli unstrapped himself. "I've seen chief mates who did worse on the soft jets—Helena," was the comment. "So here we are on good old— What's the name of this planet, anyway?"

"Nothing, so far as I know." She hurried over to Dr. Ibn Yussuf who lay groaning in the cast which protected the ribs and arm broken in the first explosion of the *Ionian Pinafore*. "When we passed the system on our way to Deneb a week ago, Captain Hauberk named the sun Maximilian—after the assistant secretary-general of the Terran Council? That would make this

planet nothing more than Maximilian II, a small satellite of a very small star."

"What a deal," Donelli grumbled. "The last time I had to haul air out of a wreck, I found myself in the middle of the Antares-Solarian War. Now I get crazy in the head and ship out on an expedition to a part of space where humanity's just thinking of moving in. I pick a captain who's so busy buttering up to scientists and government officials that he doesn't bother to check storage tanks, let alone lifeboats. I haul air with three people—no offense, Helena—who can't tell a blast from the Hole in Cygnus and they get so cluttered up trying to seal the air-locks that, when the secondary explosion pops off from the ship, it catches us within range and blooies most of our jets and most of our Q. Then, to top it off, I have to set down on a planet that isn't even on the maps and start looking for the quart or two of J that may be on the surface."

She eased the scientist's cast to a more comfortable position and chuckled.

"Sad, isn't it? But ours was the only boat that got away at that. We were lucky."

Donelli began climbing into a space-suit. "We weren't lucky," he disagreed. "We just happened to have a good spaceman aboard. Me. I'll scout around our island and see if I can find any characters to talk to. Our only hope is to get help from the folks here, if any. Sit tight till I get back and don't touch any equipment you don't understand."

"Want me to come with you—er, Donelli?" Dr. Blaine moved to the space-suit rack. "If you meet anything dangerous—"

"I'll make out better alone. I've got a supersonic in this suit. And Doc—you might forget which button. Great gravities!"

Shaking his helmeted head, Donelli started the air-lock machinery.

The orange ground was brittle underfoot, he found, and flaked off as he walked. Despite the yellow atmosphere, he could see the complete outline of the island from the hill near the ship. It was a small enough patch of ground pointing reluctantly out of an irritated sea of hydrofluoric acid.

Most of it was bare, little dots of black moss breaking the heaving monotony of orange. Between the ship and the sea was a grove of larger vegetation: great purple flowers on vivid scarlet

stems that held them a trembling thirty feet in the stagnant air.

Interesting, but not as interesting as fuel.

He had noticed a small cave yawning in the side of the hill when he climbed it. Sliding down, now, he observed its lower lip was a good bit from the ground. He started to enter, checked himself abruptly.

There was something moving inside.

With his metal-sheathed finger, he clicked on the searchlight imbedded in his helmet and with the other hand, he tugged the supersonic pistol from its clamps in the side of his suit and waited for its automatic adjustment to the atmosphere of the planet. At last it throbbed slightly and he knew it was in working condition.

They needed favors from the inhabitants and he didn't intend to do any careless dying, either.

Just inside the cave entrance the beam of his light showed a score of tiny maggot-like creatures crawling and feeding upon two thin blankets of flesh. Whatever the animals they were eating had been, they were no longer recognizable.

Donelli stared at the small white worms. "If you're intelligent, I might as well give up. I have an idea we can't be friends. Or am I prejudiced?"

Since they ignored both him and his question, he moved on into the cave. A clacking sound in his headphones brought him to a halt again, squeezing a bubbling elation back into his heart.

Could it be? So early and so easy? He drew the screen away from the built-in Geiger on his chest. The clacking grew louder. He turned slowly until the flashlight on his head revealed a half dozen microscopic crystals floating a few inches from one wall.

Contra-Uranium! The most compact, super-fuel discovered by a galactic-exploring humanity, a fuel that required no refining since, by its very nature, it could occur only in the pure state. It was a fuel for whose powerful uses every engine and atomic converter on every spaceship built in the past sixty years had been designed.

But six crystals weren't very much. The lifeboat might barely manage a take-off on that much Q, later to fall into the hydrofluoric sea.

"Still," Donelli soliloquized, "it's right heartening to find some so near the surface. I'll get an inerted lead container from

the ship and scoop it up. But maybe those crystals have a family further back."

The crystals didn't, but someone or something else did.

Four large, chest-high balls of green, veined thickly with black and pink lines, throbbed upon the ground at the rear of the cave. Eggs? If not eggs, what were they?

II

Donelli skirted them warily, even though he saw no opening in any of them. They were anchored to the ground, but they were unlike any plants he had seen in nine years of planet-jumping. They looked harmless, but—

"Well, grow me tentacles and call me a Sagittarian!"

The back of the cave divided into two tunnels which were higher and wider than their parent hollow. Smooth all around, Donelli might have taken them for the burrows of an immense worm, had he not noticed the regularly-spaced wood-like beams crossed upon each other at intervals in both shafts. The tunnels extended a good distance ahead, then curved sharply down and away from each other.

This was mining, this was engineering! Primitive, but effective!

Donelli hated to use up power in his helmet-transmitter, but he might run into trouble and it was essential that the three scientists learn of even the small amount of Q in the cave. After all, the creatures who built these tunnels might not know enough chemistry to appreciate his inedibility before they sampled him.

He turned on his headset. "Donelli to ship! Good news: I've found enough Q to keep us breathing until *after* this atmosphere burns through our Grojen shielding. We'll be able to sit around in our space suits for at least three days after the ship is eaten out from under us. Nice? You'll see the crystals about halfway into the cave. And don't forget to use an inerted lead container when you pick them up."

"Where are you going, Jake?" He recognized Helena's voice.

"Couple of tunnels at the rear of the cave here have regulation cross-supports. That's why we didn't see any cities when we came down. The smart babies on this world live underground.

I'm going to try to talk them into a reciprocal trade treaty—if we have anything they want to reciprocate with."

"Wait a minute, Donelli," Blaine shouted breathlessly. "If you meet any intelligent aliens, it's more than possible they won't understand Universal Gesture-Diagram. This is an unexplored fluorine-breathing world. I'm an experienced archaeologist and I'll be able to communicate with them. Let me join you."

Donelli hesitated. Blaine was smart, but he sometimes fumbled.

Helena came back on. "I'd suggest you take him up on it," her steady voice said. "Archibald Blaine may get switches confused with buttons, but he's one of the few men in the galaxy who knows all nine of Ogilvie's Basic Language-Patterns. If these miners of yours don't respond to an Ogilvie Pattern—well, they just don't belong in our universe!"

As Donelli still hesitated, she developed her point. "Look Jake, you're our commander and we accept your orders because you know how to cuddle a control board and we don't. But a good commander should use his personnel correctly and, when it comes to dealing with unknown extra-terrestrials, Blaine and I have training that you've been too busy to acquire. You're a spaceman; we're scientists. We'll help you get your Q, then we'll take orders from you on how to use it."

A pause. "All right, Blaine. I'll be moving up the righthand tunnel. And Helena—see that his space suit is all buttoned up before he leaves the ship? He can catch an awful cold in that yellow air."

The squat, pale spacehand took a firm grip on his sound pistol and walked delicately into the shaft. The ground here was of a firmer consistency than that on the surface: it supported his weight without either chipping or sagging. That was good. Nothing could come at him through the walls without his detecting it first.

He ducked under a cross-beam, his light momentarily pointing down. When he straightened again, he saw he had company.

At the far end of the tunnel, where it slanted down, several long, segmented beings were moving slowly toward him. There was only the faintest rustle in his headphones as they approached.

Donelli noticed with relief that only one of them had a weapon, a crude hand-ax without a handle. Come to think of it, though, an ax-head thrust forcefully might penetrate not his suit but—what was more dangerous—the Grojen shielding, leaving the metal exposed to the corrosive atmosphere. Not so good. But they didn't seem hostile.

As they arrived within a few feet of him, their speed decreased almost to immobility but their three pairs of three-clawed limbs pushed them to his side. Then they stopped, and the long thin hairy appendage on their heads brushed against his suit inquiringly and without fear. Their toothless mouths opened and made low gobbling sounds to each other.

They evidently had a language. Donelli saw the flat membrane on their backs that was obviously an ear, but he looked in vain for eyes. Of course, living underground in darkness, they were blind. A fat lot of help Universal Gesture-Diagram would be, even if they could understand it.

Something about the sectioned length of the bodies stretching behind them, something about their rich ivory color, was familiar. Donelli's mind tugged at his memory.

A terrific crash sounded in his ear phones. The three burrowers stiffened around him. Donelli turned and swore.

Blaine had entered the tunnel and smashed into one of the cross-beams. He was stepping over the fallen log now. His space suit seemed undented, but his self-confidence had not fared so well. Also a little bubble of earth formed over the area which had rested on the beam end.

The natives had rubbed their head filament upon the ground as if examining its intentions. Now, before Donelli could get started, they scampered down the tunnel toward the fallen support. Working in perfect coordination, without any apparent orders, they quickly lifted and inserted it in its former position. Then they began brushing against Blaine.

"Deep space, Doc," Donelli moaned as he came up.

"Sh-h-h—quiet!" The archaeologist had bent over the nearest burrower and was clicking his metal-enclosed fingers in an odd rhythm over its ear patch. The animal curved away for a moment, then began a low, hesitant gobbling to the same rhythm as the finger-clicks.

"Can—can you talk to it?" Donelli found it difficult to see the old man as anything but a doddering ineffectual.

"Ogilvie Pattern Five. Knew it. *Knew* it! Those three-clawed feet and the sharp curve of the ax. Like to investigate the material of the ax—noticed the pointed tip right off. Had to be an Ogilvie Five language. Can I talk to it? Of course! Just need a minute or two to establish the facets of the pattern."

The spaceman's respect for the academic life grew rapidly as he saw the other two aliens edge under the metallic hand and commence gobbling in turn.

They were joining the conversation, or the attempt at one. Blaine began to stroke the side of one of the creatures with his other hand. The gobbling acquired a note of surprise, became staccato.

"Amazing!" Blaine said after a while. "They mine everything, and completely refuse to discuss the existence of surface phenomena. Most unusual, even for an Ogilvie Five. Do you know where they get their supporting beams? From the roots of plants. At least, that's what they seem to be from their description. But—and this is what the Galactic Archaeological Society will consider significant—they cannot seem to grasp the concept of plant blossoms. They know only of the roots and the base of the stem. Their social life, now, is strangely obscure for so elementary a culture. But perhaps it might better be termed simple? Consider the facts—"

"You consider them," Donelli invited. "I'm thinking of the Q we need. All this space-suit power drain is cutting so many hours off our total breathing time. Find out what they'd consider a good trade and ask them to move up into the cave ahead so that I can show them what contra-Uranium looks like. We'll supply them with inerted lead containers for picking up the stuff. How far do their tunnels run?"

"All around the planet, I gather. Under the sea and under the continents in a crossing, branching network. I don't anticipate any difficulty. Being the dominant intelligent life-form of the planet, and not particularly carnivorous, they're really quite friendly."

Blaine's fingers clicked questioningly at the nearest alien and he stroked its side with short and long rolls of his hand. The

creature seemed confused and gobbled to its companions. Then it moved back. Blaine clicked and stroked once more.

"What's the matter, Doc? They look angry now."

"My suggestion of the cave. It's evidently under the strongest of taboos. These are barbarians, you understand, just emerging into a religious culture-matrix, and a powerful taboo takes precedence over instinct. Then, too, living in the tunnels, they are probably agoraphobic—"

"Look out! They're trying to pull some fancy stuff!"

One of the aliens had scuttled under Blaine's feet. The archaeologist tottered, crashed to the ground. The other two burrowers grasped his long arms between their claws. Blaine struggled and rolled desperately, looking like a confused elephant attacked by jackals.

"Donelli," he gasped, "I can't talk to them while they're holding my arms. They're—they're carrying me!"

The pair of burrowers were dragging the old man's body down the tunnel with gentle but insistent tugs. "Don't worry, Doc. They won't get by me. That must have been one powerful taboo you broke when you mentioned the cave."

As Donelli advanced to meet the group, the alien who had upset the archaeologist scurried ahead to confront him. A forward claw held the small ax-head well back for a thrust.

"Look, fella," Donelli said placatingly. "We don't want any trouble with you, but we aren't carrying too much power right now and the doc's suit would run down in no time if you took him any deeper. Now why don't you act business-like and let us show you what we need?"

He knew his words carried no meaning in themselves, but he had had enough experience of unusual organisms to know that a gentle attitude frequently carried the conviction of its gentleness.

Not here, though. The claw snapped forward suddenly and the ax-head spun toward his visored face with unexpected velocity. Donelli jerked his head to one side and felt the pointed tip of the weapon scratch the side of his helmet. The slight buzzing in his right ear was replaced by an empty roaring: that meant the ear phone had gone dead, which in turn meant the Grojen shielding had been chipped off leaving the hydrofluoric vapors free to eat through the metal.

"This is no good. I guess I'll have to—" The burrower had retrieved the ax in a lightning scamper and had it poised for another throw. As Donelli brought his supersonic up, he marveled at the creature's excellent aim despite its lack of vision. That long, hairy filament waving from the top of its head evidently served to locate his movements better than the finest radarplex on the latest space ships.

Just before he blasted, he managed to slip the intensity rod on the top of the tube down to non-lethal pitch. The directional beam of high-frequency sound tore down at the burrower and caught it with the claw coming around again. It stopped in midthrow, stumbled backwards, and finally collapsed into unconsciousness upon the orange ground. The ax-head rolled out of its opened claw.

Blaine protested with a grunt as he was dropped by the other two. They ran up to the fallen burrower and edged around his body insistently. Donelli held his supersonic ready for further developments.

What happened took him completely by surprise.

In a series of movements so rapid that he could hardly follow it visually, one of the aliens snatched up the ax-head while the other lifted the creature Donelli had blasted to its back. They rolled up the slope of the tunnel and scurried past him on either side, the fluorine atmosphere almost crackling with their passage. By the time the spaceman had whirled, they were gone down the far end of the shaft where it dipped into the interior of the planet.

"They sure can hurry when they feel they have to," Donelli commented as he helped the older man to his feet. "Which is what I have to do if I want to get back to the ship before I start sneezing hydrofluoric acid."

While they sped as rapidly as the heavy suits would permit up the tunnel and through the cave, Blaine wheezed an explanation: "They were quite friendly until I mentioned the cave. There seems to be so much sacredness connected with it in their minds that my mere invitation to go there reduced me from an object of great interest to one of the most abysmal disgust. They were indifferent to any wants of ours in reference to the place.

Any suggestion of taking them along is enough to precipitate a violent attack."

Donelli wondered if he were imagining the smarting sensation in his eyes. Had fluorine started to seep in already? Fortunately, they were at the mouth of the cave.

"Not so nice," he said. "The Q around here isn't enough to make our ship give out with a healthy cough, and we'll need their help to get any more. But we can't tell them what we want unless they go to the cave with us. Besides, after this fracas, they may be a trifle hard to meet. Why were they carrying you away?"

"To sacrifice me to some primitive deity as a placative measure, possibly. Remember they are in the early stages of barbarism. The only reason we weren't attacked immediately is because they are easily the dominant life-form of this world and are confident of their ability to cope with strange creatures. Then again, they might have wanted to investigate me—to dissect me—to examine my potentialities as food."

They rang the air-lock signal and clambered in.

III

Hastily Donelli stripped off his space suit. There was a thin scar on the metal of the helmet where the Grojen shielding had been scratched away and HF vapor eaten in. A little longer out there and he would have been doomed!

"Hullo!" For the first time, he noticed that almost one-third of the cabin was taken up by a great transparent cage, one corner of which was occupied by a relaxed red creature with folded black wings. "When did the vampire kid arrive?"

"Ten minutes ago," Helen Naxos replied. She was adjusting a temperature-pressure gauge at the side of the cage. "And he—she—it didn't arrive: I carried it inside. After Dr. Blaine left, I went over the island with the telescanner and noticed this thing flying in from the sea. It went right to those purple flowers and began cutting off sections of the petals and putting them in a sort of glider made out of vines and branches that it was towing. The things obviously cultivate vegetation. That patch out there is one of their gardens."

"Imagine!" the archaeologist breathed. "Another civilization in embryo—avian this time. An avian culture would hardly

build cities. But this is a culture where the glider comes before the wheel."

"So you put on a space suit and went out to get it." Donelli shook his head. "You shouldn't have done that, Helena. That creature might have packed a wallop."

"Yes, I considered the possibility. But I didn't know if you two were going to hit anything important, and this winged thing looked as if it might prove to be a link between us and this world. Its ability to fly, in particular, while we are grounded could prove valuable. It was fairly quiet when I approached, neither scared nor angry, so I tried the little Ogilvie I know—pattern one. Didn't work."

"Of course not," Dr. Blaine told her positively. "This is obviously Ogilvie Language-Pattern Three. Consider the hinged wings, the primitive glider you mentioned, the husbandry of flowers. It has to be an Ogilvie Three."

"Well, I didn't know that, Dr. Blaine. And it wouldn't have helped me much if I had. Ogilvie is a little too rich for a poor female biologist's blood. At any rate, after communication broke down—or never got started—this thing ignored me and prepared to fly away with its loaded glider. I squeezed some supersonic at it—low-power of course, brought it down and came in to ask Dr. Ibn Yussuf's advice on how to build a compartment that would permit us to keep it in the ship without killing it by oxygen poisoning."

"Must have used up an awful lot of Q, Helena! I notice you have pretty elaborate temperature and pressure controls as well as HF humidifiers and in-grav studs. And that loud-speaker system is wasteful."

Dr. Ibn Yussuf groaned up in his bunk and called across the cabin. "It does reduce our supply of contra-Uranium to the danger point, Donelli, but, under the circumstances, we thought we were justified. Our only hope is to get aid from the inhabitants of this planet, and we can't get aid unless we can hold them long enough to explain our position and wants to them."

"You have something there," Donelli admitted. "I should have made a stab at bringing back one of those specimens we ran into, not that it would have done much good from the way they acted. Hope you have more luck with this avian character.

Treat him—her—it lovingly for he—she—it's our last chance."

Then he and Blaine told her about the burrowers.

"I wish I had been with you," she exclaimed. "Think of it: two barbaric civilizations—one on the surface and the other in the tunnels—developing in complete unconsciousness of each other on the same planet! The burrowers know nothing of the avians, do they Dr. Blaine?"

"Absolutely nothing. They even refuse to discuss the matter. Surface life is a completely alien concept to them. Their agoraphobia—fear of open places—probably has much to do with their reluctance to accompany us to the cave or even the tunnel entrance. Agoraphobia— *Hm-m-m.* Then these winged creatures might well be claustrophobic! That would be a catastrophe! We'll find out in a moment. It's opening its eyes. Where is that loud-speaker arrangement?"

Helena moved competently to the microphone and tucked a lever past several calibrations. "You may know its Ogilvie Pattern, Doctor, but it takes a biologist to give the sound frequency at which it can hear best!"

As Blaine began experimental dronings and buzzings into the instrument, the creature inside the transparent cage opened its wings in a series of hinged movements and revealed the whole rich redness of its small body. It crawled under the loudspeaker and spread open a mouth that was slit up and down instead of sideways. The black wings beat slowly as it gained interest, reflecting cheerful yellow streaks in their furrows. The two tentacles under its jaw lost their stiffness and undulated in mounting excitement.

This would take some time. Donelli walked to the telescanner and faced Dr. Douglas Ibn Yussuf.

"Suppose we get this fellow to cooperate. Where's a good place to tell it to look for Q?"

The chemist lay back and considered. "You are familiar with Quentin's theory of our galaxy's origin? That once there were two immense stars which collided—one terrene, the other contra-terrene? That the force of their explosion ripped the essence of space itself and filled it with ricocheting terrene and contra-terrene particles whose recurring violence warped matter

out of space to form a galaxy? According to Quentin, the resulting galaxy was composed of terrene stars who are touched every once in a while by contra-terrene particles and go nova. The only exception is contra-Uranium, the opposite number of the last element in the *normal* periodic table, which will not explode as long as it is isolated from the heavy elements near its opposite number on the table. Thus in a fluorine atmosphere, with a bromide soil and—"

"Look, Doc," Donelli said wearily. "I learned all that in School years ago. Next you'll be telling me that it's thousands of times more powerful than ordinary atomic fuels because of its explosive contra-terrene nature. Why is it that you scientists have to discuss the history of the universe before you give a guy an answer to a simple question even in a crisis like this?"

"Sorry, son. It's difficult to break the habits of an academic lifetime, even in times of a deadly emergency. That's your advantage; you're accustomed to operate against time, while we like to explore a problem thoroughly before attempting a mere hypothesis. Science is a caution-engendering discipline, you see, and—

"All right. I won't digress into a discussion of the scientific attitude. Where would you find contra-Uranium on a planet that's been shown to possess it? Near the surface, I'd say, where the lighter elements abound. You've already found some in a cave on this island? That would indicate that it was forced explosively to the surface, the only place it could exist, when the planet was in a formative state. If there is other contra-Uranium on this world, there must be other caves like the one here."

Donelli waved him to silence and bent over the telescanner. "Good enough. Deep space and suppressed novas, Doc. That was *all* I wanted to know! Now I'll see how much I can find out before I use up the dregs of our power."

He swept the beam across the sickly sea and up the coast-line of the continent until he saw a dark spot in the orange ground. Then, nudging the telebeam into the cave, he saw at last the few shimmering crystals that meant precious Q. He tried other apertures here and there, convincing himself that, while there was little enough in any one cave, the planet as a whole possessed more than they required. The sight of all the unobtain-

able Q on the telescanner screen made Donelli sweat with exasperation.

He made another discovery. Leading down, in the rear of every cave was at least one tunnel that denoted the presence of the burrowers.

"If only we could have made them understand," Donelli murmured. "All of our problems now would have been orbital ones."

He rose and turned to see how his shipmates were doing with the winged alien. "Great gravities, what did you *do* to it?"

The avian was back in a corner of the fluorine-filled compartment, its hinged black wings completely screening its body from sight. The wings pressed down harshly as if the creature were attempting to shroud itself out of its environment.

Dr. Archibald Blaine, his hands cupped over the microphone, was *chuk-chuking* urgently, droning repetitiously, humming desperately. No apparent effect. The black wings squeezed tighter into the corner. A fearful, muffled gulping came over the loudspeaker in the wall.

"It was the mention of the cave, again," Helena Naxos explained, her pleasant face betraying worry. "We were doing fine, going from 'howd'yedo's' to 'how'veyebeen's'—the girlie was beginning to tell us all about her complicated love-life—when Dr. Blaine asked if she had ever been inside the cave. Period. She crawled away and started to make like the cover of a hole."

"They can't do this to us!" Donelli yelled. "This planet is practically crawling with Q which we can't get because we don't have the Q to cross a hydrofluoric acid sea. The only way we can get it is for these babies to haul it over, either underground through tunnels or across the sea. And every time Blaine starts talking about the caves where the Q is lying around, they go neurotic on him. What's the *matter* with the caves? Why don't they like them? *I* like the caves!"

"Take it easy, Jake," Helena soothed. "We're up against a basic taboo in two separated cultures. There must be a reason for it. Find the reason and the problem is solved."

"I know. But if we don't find it soon we'll be nothing but fancy fluorine compounds."

The woman returned to Dr. Blaine. "Is it possible you could reawaken her interest by offering some gift? A superior glider, for example, or power-driven flight."

"I'm working on it," he replied testily, withdrawing his mouth from the microphone. "To creatures on the threshold of civilization, however, superstition takes precedence over mechanical innovations. If it's *only* superstition—that's another thing we don't know. Could it be the contra-Uranium crystals they're afraid of?"

Dr. Ibn Yussuf raised himself on his sound arm. "That is doubtful. Their chemical composition contains no elements heavier than barium, according to the spectroscope. Thus no contra-atomic chain reaction would be set off by their bodies coming in contact with the crystals. Perhaps the mere existence of the crystals upsets them."

Blaine frowned. "No. Unlikely. There would have to be a factor intimately related to them in some way. If I could only attract her attention! No matter what I say, she just lies there and gurgles." He went back to his urgent buzzing, frantically using a life-time of archaeological knowledge.

Donelli looked at the fuel indicators. His lips flattened into a grimace.

"I'll have to go out there and pick up those Q particles in the cave. That cage you built may make that avian comfortable, but it sure drained us dry."

"Wait, I'll go with you," Helena suggested. "Maybe I can discover what makes these fearsome caves so fearsome."

She donned a space suit. Donelli, after a rueful glance at his corroded helmet, dragged another metallic garment out of the locker and used its headpiece instead. They both inspected their supersonics carefully. He approved her casual efficiency.

"You know," her voice said into his headphones as they trudged toward the hill, "if Dr. Blaine is able to talk some sense into that creature and we manage to jet to a regular traffic lane and get rescued, he'll make quite a smash before the Galactic Archaeological Society with his two coexisting but unrelated civilizations. I'll get some fair notice myself with the little I've been able to deduce about these creatures biologically without resorting to dissection. Even Ibn Yussuf, bed-ridden as he is, has been doing some heavy thinking on the chemistry of a bro-

mide soil. And you—well, I imagine you want to get back to a place where you can hurry up and get drunk."

"No."

Her helmet turned toward him in surprise and question.

"No," he continued. "If we get out of this, I'm going to take advantage of the lifeboat law. Heard of it?"

She hadn't. Her eyes glowed intently behind her visor.

"The lifeboat law's one of the oldest in space. Any spaceman —Able or Ordinary—who, under a given set of circumstances, is entitled to assume command of a vessel and successfully brings that vessel to safety may, at his written request, be issued the license of a third officer. It's called the lifeboat law because that's what it usually pertains to. I have the experience. All I need is the ticket."

"Oh. And what would you do as a third officer? Get drunk whenever you left Io?"

"No, I wouldn't. It's hard to explain—maybe you can't understand—but as a third mate, I wouldn't get drunk. An A. B. or an ordinary spaceman, now, there's so much tiresome, unimportant work facing you whenever you leave a port that you just have to get drunk. And the longer you've been in space, the drunker you get. As a third mate, I wouldn't drink at all—except maybe on vacations. As a third mate, I'd be the dryest, stiffest guy who ever was poisoned by a second cook. I'd be a terror of a third mate, because that's the way things are."

"Look at that!" Helena had paused with her back to the mouth of the cave.

IV

Jake Donelli turned and looked back at the ship. Across it, in the grove of fleshy purple flowers, were at least a dozen winged creatures like the one Blaine was attempting to interest in conversation. Far over the sea, were many dots that grew larger and resolved into even more of the avians. Some of them towed gliders lightly behind them. Others carried light tubes. Blow-guns?

"Wonder how they knew about Susie," the spaceman mused. "Was it because she didn't come back at the usual time that the posse was organized? Or are they telepathic?"

"A combination, possibly. They certainly seem to know when

one of them is in trouble. You wouldn't say they're acting belligerent?"

"Nope. Just flexing what passes for their muscles. They don't know whether we intend to serve Susie fricassed or boiled in her *hic jacet*. Better duck inside."

The biologist became her crisp self the moment she saw the white worms. "Wish I could tell exactly what is is they're eating. Now suppose I make a loose guess. Yes, it could well be. Jake, where are those other eggs?"

"Other eggs? Back there. Funny kind of eggs."

She slipped ahead of him, her searchlight picking out the chest-high globules. With a muttered exclamation, she bent down and examined one closely. It was slowly splitting along a pink vein. Donelli waited hopefully.

"No." She straightened. "It doesn't add up. Even assuming, as would seem possible, that those small creatures in the front are the live young of the burrowers and these are the eggs of the avians, it still doesn't explain their relative distance from the usual habitat of their parents. If they *were* the young of each species, the positions should be reversed. With their strong taboos and respective phobias, the avians would not fly so far into the cave, and the burrowers would not crawl so close to the surface. Furthermore, they would inevitably have passed each other at some time and know of each other's existence. Then too, while birth taboos are common among all primitive races, they hardly have the force of the psychoses which seem to affect both species relative to this and other caves. I'd need a good deal of study and many, many careful notes to work this problem out."

"Continu-um!" he swore. "This isn't a research paper for some scientific society or other. We're in a hurry. This is a matter of life and death, woman! Can't you put some pressure into your thinking?"

She threw up her arms in their ungainly wrappings helplessly. "I'm sorry, Jake. I'm trying hard, but I just don't have enough facts on which to base an analysis of two separate unfamiliar societies. I'm not a sociologist; I'm a biologist. So far as these creatures are concerned, I've just reached the threshold."

"That's all we do—stand around on the threshold," Donelli muttered. "Here are these caves, the threshold to our survival if we can get these babies to pick up the Q and bring it to us. The

avians fly around the threshold in the underground but won't go in, while the burrowers crawl around the threshold to the surface but won't go further if you give them the place."

"And both races are on the threshold to civilization. I wonder how long they have been there?"

The spaceman slung the inerted lead container to the ground, preparatory to catching up the crystals of contra-Uranium.

"What's the matter with them anyway that they're so afraid of the caves? What do they think will happen to them after they cross the threshold?"

"What—do—they—think—will—happen," Helena repeated slowly. "What are we all afraid of, the fear intrinsic to any living animal? But how—the eggs—why, of course! *Of course!*"

She bent toward him briefly and Donelli felt his helmet *clang.*

"Sorry," she said. "I forgot. I tried to kiss you. What beautiful reasoning, Jake!"

"Huh?" He felt absurdly clumsy in his ignorance—and guilty.

"I'll have to work the details out as I go. Dr. Blaine—once I give him your premise—he'll be able to help. Isn't it wonderful how removal of one stone from the pyramid of obscurity sends the whole structure tumbling down? Now, Jake, do you think you could go into those tunnels and fetch me a live but slightly stunned burrower? We'll need one, you know."

"I—I guess I can. Where do you want him?"

"It, Jake, *it!* Bring it right here to the middle of the cave. I'll be waiting for you. Hurry!"

She ran out of the cave toward the ship. Donelli watched her go, decided he couldn't recall any particularly clever remarks he had made, set his supersonic for its lowest frequency and moved to the tunnels.

He paused before the intersection. He and Blaine had had their little scrap with the burrowers in the right-hand one, and an elaborate trap might have been set there against their return: accordingly he chose to walk down the shaft on his left.

It was much like the other shaft. Carefully carved cross-beams were set up at intervals, while the sides were smooth and round. He came to the sharp slope and moved more cautiously. If he slipped into a hole, there was no telling how far he might fall.

The slope became steeper. Donelli's helmet light suddenly

exposed another, more complicated intersection ahead in the form of six tunnel entrances. In front of one, two burrowers were chipping the end of a large root out of the tunnel ceiling.

As his search beam hit them, they whirled simultaneously and waved the hairy appendage at him for the barest fraction of a second. Then, both sprang for the tunnel entrance in a flicker of ivory bodies.

Donelli thought he had missed. He had brought up his weapon just as they leaped. But one fell to the floor, the ax-head dropping. The creature was not completely unconscious, gobbling weakly at him as he approached. Donelli slung it over his shoulder and started back. The creature squirmed limply in his grasp.

There was an odd, insistent patter behind him, a sound of many legs. Pursuit. Well, they wouldn't dare follow him into the cave. He wished the suit weren't so heavy, though. He kept turning his head to look at the empty shaft to the rear. Nasty to be overcome from behind, under the suffocating earth of an alien planet.

Even though the burrower stiffened with fear when he reached the cave, he felt better. The pattering grew louder, stopped, came on slowly.

Helena Naxos and Blaine were squatting near the four large veined balls, the avian, weakly fluttering, between them. They held a supersonic over it. The winged creature had evidently had a dose of sound like that of Donelli's captive. Blaine was speaking persuasively, in that hum-drone language, with little apparent effect.

"Put it right down here, next to the other one," Helena ordered. "With a little time and a little imagination, we may get out of this fix. Too early to tell just yet. Jake, you'll have to act as sort of armed guard at this conference. We mustn't be disturbed. Susie's playmates are too frightened to come in, but they've been making all kinds of fuss since we carried her out of the ship and into the cave."

"I'll take care of it," the spaceman promised.

He gasped with sheer astonishment when he reached the entrance of the cave. The saffron sky was obscured by multitudes of black winged avians dipping in short angry circles. A swarm of the avians had surrounded the lifeboat and, as he watched, they lifted it slightly off the ground in the direction of the sea.

This was no attempt to placate a deity, he decided, but sheer vindictiveness—revenge for the unspeakable tortures they imagined the humans were venting on the prisoner.

The supersonic low-power beam rolled them off the ship in a huge stunned mass. Their places were immediately taken by others. Donelli sprayed them off too.

They left the ship alone after that, and came in flying low at him with their blow tubes in their mouths. Jagged darts shrilled nastily all around him. He felt one bounce off his chest and hoped vaguely that they were less effective than the weapons of the burrowers on Grojen shielding. He moved back into the shadow of the cave.

Helena, Dr. Blaine and the two aliens came up behind him and gathered round the white worms near the entrance.

"Pretty dangerous here," he told them. "These avians of yours are an accurate bunch of snipers."

"No help for it," she replied. "We're getting close. I don't think they'll keep blowing darts after they get a glimpse of Sister Susie. We'll be safe so long as we're near her. Suppose you do something about the other side. Those burrowers are throwing an awful lot of stuff awfully far."

He moved past them toward the rear, noting that both the winged and clawed creature were no longer under the influence of the supersonics but were listening intently to Dr. Blaine as he alternately hummed at one and clicked at the other. They almost watched Helena gesture to the white worms and their grisly meal and back to them.

At least we've got their interest, Donelli thought grimly.

He began to cough. No mistake this time, there was HF vapor seeping into his suit through some scratch. Fluorine was eating at his lungs. Well, he didn't have time to feel sick.

The ivory-colored animals had rigged up a primitive ballista just a few feet from the end of the tunnel and were pegging axheads into the cave at fairly respectable velocities. The missiles were easy to side-step; but Donelli's head was getting heavy and he lost his footing once or twice. As fast as his supersonic would sweep them away from the ballista, they would crowd back again with stubborn determination. A slow, evil fire built itself in Donelli's chest and spread nibbling fingers along his throat.

He looked over his shoulder. No more darts were coming in

at the rapt group near the cave mouth. Evidently the avians were possessed of more love for one of their number than the burrowers. He had just started to turn his head, when a heavy object struck the back of his helmet. He dimly perceived he was falling. It seemed to him that the burrower which he had captured leaped over him and rejoined its fellows, and that Susie flew out to a clustered bunch of avians and that they all buzzed and hummed like idiots.

What a waste of time, he thought as the fire began to consume his brain. Helena let them go.

It seemed to him that Helena and Dr. Blaine were hurrying to his side through a shimmering mist of yellow agony. It also seemed to him that one of the chest-high balls split up along a pink vein and something came out.

But he was sure of nothing, but the painful, choking darkness into which his body twisted, nothing but the agony in his chest. . . .

He woke with a spaceman's certain knowledge of riding a smooth jet. His body felt deliciously light. He tried to sit up, but he was too weak to do more than turn his head. Two men had their backs to him. After a while he identified them as Dr. Archibald Blaine and Dr. Douglas Ibn Yussuf. Dr. Yussuf was out of his cast and was arguing in an animated fashion with Blaine over a white ax-head imprisoned in a plastic block.

"Why, I'm in Dr. Yussuf's bunk," Donelli muttered stupidly.

"Welcome back," Helena told him, moving into range of his watery eyes. "You've been pretty far away for a long, long time."

"Away?"

"You ate enough hydrofluoric acid to etch a glass factory out of existence. I made my biological education turn handsprings to save that belligerent life of yours. We used up almost every drug on the ship and Dr. Yussuf's organic deconverter-and-respirator, which he built and used on you, is going to make him the first physical chemist to win a Solarian Prize in medicine."

"When—when did we take off?"

"Days ago. We should be near a traffic lane now, not to mention the galactic patrol. Our tanks are stuffed with contra-Uranium, our second jet is operating in a clumsy sort of way and our converter is functioning as cheerily as any atomic converter ever did. After the help we gave them with their own lives, the

population of Maximilian II was so busy bringing us Q that we ran out of inerted lead containers. From considering us the personifications of death, they've come to the point where they believe humans go around destroying death, or at least its fear. And it's Jake Donelli who did that."

"I did, did I?" Donelli was being very cautious.

"Didn't you? That business about the threshold of life and death being the caves was what I heard you develop with my own ears. It was the only clue I needed. The caves related not only to the sacredness of birth, but—more important to the primitive mind—to the awful terror of death. A threshold, you called it. And so it was, not only between life and death, but between the burrowers and the avians. Once I had that, and with a little scientific guessing, it was simple to figure out why the eggs were laid in apparent reverse order—that of the burrowers near the front, and that of the avians at the rear—and why they had never met each other."

The spaceman thought that over and then nodded slowly.

"Simple," Donelli murmured. "Yes, that might be the word. This little shred of scientific guessing you did, just what did it amount to?"

"Why, that the avians and the burrowers were different forms of the same creature in different stages of the life-process. The winged creatures mate just as their powers start to decline. Before the young hatch, the parents seek out a cave and die there. The young, those white worms, use the parental bodies as food until they have grown claws and can travel down to the tunnels where they become adolescent burrowers.

"The burrowers, after all, are nothing but larva—despite the timbering of their shafts and their mining techniques which Drs. Blaine and Yussuf consider spectacular. They can be considered sexless. After several years, the burrower will return to the cave. In the belief of its fellows it dies there, since it returns no more. It spins a cocoon—that's what those large green balls were—and remains a chrysalis until the winged form is fully developed. It then flies out of the cave and into the open air where it is accepted by the so-called avians as their junior. It evidently retains no memory of its pre-chrysalis existence.

"Thus you have two civilizations unaware of each other, each

different and each proceeding from the same organism. So far as the organism was concerned in either stage, it went to the cave only to die, and, from the cave, in some mysterious fashion, its own kind came forth. Therefore, a taboo is built up on both sides of the threshold, a taboo of the most thoroughgoing and binding nature, the mere thought of whose violation results in psychosis. The taboo, of course, has held their development in check for centuries. Interesting?"

"Yeah!"

"The clue was what was important, Jake. Once I had it, I could relate their life-cycle to the *Goma* of Venus, the *Lepidoptera* of Earth, the *Sislinsinsi* of Altair VI. And the clincher was that one of the winged forms hatched out of a cocoon just after I'd finished explaining what was up to that moment only my hypothesis."

"How did they take it?"

"Startled at first. But it explained something they were very curious about and swept away an immense weight of ugly fear. Of course, they still die in the caves to all intents and purposes. But they can see their lives as a perfect reproductive circle with the caves as a locus. And what a reciprocity they can work out—they are working out!"

"Reciprocity?" Donelli had almost moved to a sitting position.

Helena wiped his face with a soft cloth. "Don't you see? The burrowers were injuring the avian gardens by nibbling at the roots. They will now use only the roots of old, strong plants which the surface creatures will designate and set aside for them. They will also aid avian horticulture by making certain the roots have plenty of nourishing space in which to grow. In return, the avians will bring them surface plants which are not available to tunnel creatures, while the burrowers provide the surface with the products of their mines and labors underground. To say nothing of the intelligent rearing they can now give their young, though at a distance. And when the fluorescent light system that Dr. Ibn Yussuf worked out for them becomes universal, the avians may travel freely in the tunnels and guide the burrowers on the surface. The instinctual and haphazard may shortly be supplanted by a rich science."

"No wonder they broke their backs getting Q. And after

working that out for them, all you did was repair the ship, fix me up, take off and set a course for the nearest traffic lane?"

She shrugged her shoulders. "Dr. Blaine helped quite a bit with the take-off. This time he remembered the buttons! By the way, as far as the record is concerned, he and I maneuvered the ship off the ground under your direct supervision."

"Oh, so?"

"Just so. Right, Dr. Blaine?"

The archaeologist looked up impatiently. "Of course. Of course! There has not been one moment, since the disaster aboard the *Ionian Pinafore*, when I have not been under Mr. Donelli's orders."

There was a pause in which Dr. Blaine muttered to Dr. Yussuf over the ax-head.

"How old are you, Helena?" Donelli asked.

"Oh—old enough."

"But too clever, eh? Too educated for me?"

She cocked her head and smiled at him out of a secret corner of her face. "Maybe. We'll see what happens after we get back to the regular traffic lanes. After we're rescued. After you get your third mate's ticket. Here—what are you laughing at?"

He rumbled the amusement out of his throat. "Oh, I was just thinking how we earned our Q. By teaching a bunch of caterpillars that butterflies bring babies!"

Trouble on Tantalus

BY P. SCHUYLER MILLER

THE MUTTER of the bull drums throbbed through the dripping blackness. Moran pushed his face deeper into the muck of the forest floor and listened.

VUB, vub, vub, vub. VUB, vub vub, vub.

They were on three sides of him now. To east, and south, and north of him the Blueskin shamans were thumping their mocking challenge, dancing their frenzied dances, promising their young men his skull for the village pyramid and his skin for a drum that would outroar, outbluster and outbrag any drum in all the reeking jungles of Tantalus.

To east and south and north—the road ahead was clear. There lay the great sky-reaching crags of the Mountains of the Night, blanketed in everlasting clouds, cleft by bottomless chasms, drenched by the endless rains that were slishing into the mire in which he lay, rattling on the forest roof above him. There, somewhere, was the mysterious Black Hole that had sucked a score of ether ships into oblivion since men first found this God-forsaken planet. There—

Somewhere ahead of him another drum began to beat. *Tap, tap, tap.* A little drum—a shrill drum—a drum headed with human skin. *Tap, tap, tap.* A drum that jeered and mocked and dared him to come and fight. He knew that drum. He knew the blue-skinned devil who was hammering Pete Davis' stretched pelt with Pete Davis' bleached white shinbone, and by the same token, old Wallagash knew him. The withered ear that was nailed to the wall of his shack back in Talus was mate to the one that was out there in the blackness, listening to the tap, tap, tapping of Pete's shin on Pete's tanned belly. The evil, slanted eye that was peering through the murk was mate to the one his knuckles had found the night Pete Davis died. North and south, east and west. They had him, and they knew it. Well, by Heaven they'd see fighting before he went!

Six feet six of him reared out of the stinking muck. Black mud matted his red beard and his red mane. Black ooze trickled down the white barrel of his chest. One huge fist closed on the thorn branch that arched over him and ripped it down. He broke it across his knee and hefted it approvingly. With a shillelagh like that in his hand Paddy Moran could bash heads till they cut the guts out of him, and maybe a bit longer if his legs held.

VUB, vub, vub, vub. VUB, vub vub, vub.

They'd make no drum of his skin, by the saints! They'd carve no obscene runes on his boiled shins to make magic against white men of Earth. They'd finish him, like enough, but what they got wouldn't be cat meat. He shivered. There was a tale

told that the Morans had a banshee to wail them into the place of Death when the time came, but like enough she'd lost her way after the first few million miles of empty space. Sirius was not a far star, as stars went, but it was far enough, and Tantalus was by a long way the least pleasant of its many planets.

He made no attempt to be quiet now. The sooner it was done the better. He plowed his way steadily through the dripping undergrowth toward that mocking tapping in the west. It grew louder as he approached, and he could hear the echo of it rattling against the naked rock of the escarpment beyond. Then suddenly it stopped.

He stood stock-still, head up like a listening stag. Far to the north a single drum still mumbled; it broke off in midbeat, and the only sound was the hiss of rain through the branches and the drip of water in liquid mud. His grip on the thorn club tightened until he felt the skin stretch on his knuckles. The short hairs prickled along his spine. What deviltry was afoot now?

And then he heard it.

Rather, he felt it. Under his spread feet the ground trembled with a slow, rhythmic shock. One—and two—and three—and four. Like a marching army. Like the slow pacing of a giant cat. Like—

Saints above! *The Stalkers!*

Sweat came out on him in trickling beads. Blueskins he could fight. Blueskins were men. But the Stalkers were legend—horrible legend!

He listened, not breathing. They moved like cats, with a cat's stealth, with a cat's cruel sureness. They were black as the pit of hell, invisible in the night. They were ogres, demons, vampires. They were Death!

Somewhere behind him a Blueskin screamed in terror—the high, mad yammer of a frightened beast. It was too far—there must be more than one. They hunted in pairs, legend said. Up through his legs, from the quaking bog to his prickling brain, thudded the slow rhythm of the approaching footsteps. One—and two—and three—and four—

Off to the right a tree ripped down through the tangle of vines and branches to crash with echoing thunder in the mud. He wheeled, stared vainly into the blackness. Was it there?

There was a trickle of light from above. Silver highlights shone

on the sprawling roots of a forest giant. Slowly, settling each foot in the mire with infinite care, he moved into their shadow. Squeezed into a crevice in the trunk he stared at the ghostly column of light that filtered down from above. It must cross that to reach him. He would see it, silhouetted against the gleam from that glistening pool. Magnified by the resonant wood on which he stood, the footsteps shook his whole tensed body. Thud! And thud! And thud!

They stopped. A foul, animal reek stifled him. Then claws thick as a man's body closed on him and lifted him struggling into the treetops.

Moran regained consciousness. The reek of musk was still in his nostrils. The air was saturated with it. It made his head swim. He lay still in the dark, trying to gauge his whereabouts. There was a carpet of thick velvet under his spread fingers. It was dry, and hot, and it swayed under him with a slow rhythm that matched the swing of the thudding footsteps.

He got unsteadily to his feet, stood with spread legs. He put out his hand, and touched naked, wrinkled flesh that shrank away with a shriek. Something went scuttling past him in the darkness. Something whispered behind him. There was a slow, methodical sucking that brought the goose pimples on him. He took one cautious step ahead.

His foot struck something, spun it aside. He stooped and groped for it, found it. It was his club. Then he remembered the pouch at his waist. There was a white light in it. His fingers fumbled with the flap, opened it, found the little metal cylinder with its crystal bulb. As the tiny flame blazed up his jaw sagged in amazement.

He was in a narrow, windowless room lined with black velvet. A great scarlet egg twice his height filled all the far end. And cowering against its base was such an assemblage as only the mad, black jungles of Tantalus could have spawned.

Two little things like naked pink Teddy bears huddled together against the scarlet shell. Their huge, opalescent eyes sparkled with blind terror in the bright light. A creature like a wingless, boat-billed stork, with a bristling bright-blue mustache fringing its horny beak, stood morosely on one leg, regarding him with one oval eye. There was a flat pancake disk of mottled

flesh, pegged around the edge with short red legs, that seemed to be trying to burrow under the egg. And almost at his feet a thing like a giant black weasel, with six stubby legs and a tubular snout, was sucking avidly at the throat of a Blueskin woman.

Some sixth sense warned him. He ducked as an eight-inch glass blade snicked past his ear and shattered against the egg. He spun on bent legs, his club raised. Old Wallagash crouched there against the wall, a snarl on his wrinkled face, red hatred in his single slanted eye. In his withered claw was a thing like a barbed steel skewer, three feet long and needle-sharp. With a cackling screech he leaped, just as Moran's club came down with a splintering crash.

The shaman's arm fell limp, broken at the elbow. Moran's fist caught him under his receding chin. The second blow smashed into his naked belly; the third crunched full into his grinning, black-lipped mouth. Then Moran had him by the scrawny throat, worrying him like a dog with a bone.

Wallagash went limp. Moran got to his feet and retrieved his light. Ugly old devil! All Blueskins were ugly, with their pointed ears and slant eyes, their grinning, toothy mouths, their bodies made in grotesque imitation of humanity. There was a story that they were the creation of the demented scientist who had first landed on this insane planet that the space hogs called Tantalus. Certainly they resembled nothing in this mud hole so much as man. A filthy tuft of hair hung at the dead sachem's waist. Blond hair. A woman's hair! Moran knew those bleached locks—knew them intimately. So that was why Pete Davis had launched his mad crusade against the Blueskins. Moran shrugged. Much good it had done him. You could get other women, but a man had only one skin.

He turned his back on what was left of Wallagash. There was other danger here. That weasel-thing—he'd heard of them before. Rumor had it that they followed you until you slept, then sucked the life out of you while you dreamed pretty dreams. He'd learned to respect rumor in such matters. He picked up the dead Blueskin's needle-sword.

"O, Man."

The voice came from above. It was like the croak of a Martian raven. He looked up. Perched on top of the great scarlet egg was the damnedest creature he had ever seen.

It was the size of a bulldog, with a face like a vampire bat and a head of spiky black hair growing between two spreading ears. It was as black as sin, with short, kinky wool growing all over its potbellied body down to the ankles of its double-jointed legs. Its feet were two-toed claws, bare black skin over knuckly bone. And wrapping it like a leather cape were two huge bat's wings whose hooked wrists stuck up above its head like furled flags.

It had eyes like blood-red soup plates with pin-prick pupils. One of them swiveled to stare up into the shadows above them; the other regarded him unwinkingly.

"I am Shag, a Murath," the thing croaked.

Moran had heard of the Muraths. "Gollywogs," space hogs called them. They were the true native race of Tantalus, held in slavery by the few semicivilized Blueskins who had their black stone cities on the strip of fen land beyond the Mountains of the Night. Few humans had ever visited them, and fewer had returned, for while the citified Blueskins lacked some of the unpleasant habits of their savage brethren, they were inclined to be touchy and had some unpleasant tendencies toward atavism.

"Do not touch the sheetag," the clipped voice went on. "It will scream and arouse the Stalker. I can escape. I can bring help."

Sheetag—that was the weasel thing. But what did this padded cell have to do with the Stalkers? What had happened, anyway?

"Where are we?" Moran demanded. "What's this all about?"

The little creature rustled its wings impatiently. "Must we talk?" it asked. "Very well. This is the egg of a Stalker. This is its incubation pouch. Perhaps the egg will hatch and the young of the Stalker will eat us. Perhaps it will do something else. I do not know. Nobody knows. I know that I can escape if you will help. You will come here please."

Moran shrugged. Half his life had been spent in space and the planets that rattled around in space. He'd given up balking at screwy situations long ago. He crammed his shoulders into the space behind the big red egg, wedged his knee against its pebbly surface, and began to climb.

Against his back the black plush wall of the room pulsed with a rhythm quite different from the lurch and sway he had felt

before. It was like a great artery, throbbing with the incessant pulse of life. What if it *was* an artery? What if this *was* the brooding pouch of a Stalker, as Shag had said? Then what in the name of Heaven must a Stalker be like?

The Murath thrust out a long-toed foot and hauled him up on the rounded top of the egg. It had no hands, only the two great wings. They must have had a spread of twenty feet. No wonder the creature's chest stuck out like the keel of a yacht.

He had to stoop because of the ceiling. The black fur lining stopped opposite his knees. Leathery black skin covered two bands of muscle that closed the pouch. He put his hand up. They were warm, like flesh. They were flesh. It was true.

The gollywog's hideous face swiveled toward him. "You can make an opening," it observed passionlessly. "You are strong. I will crawl out. I am small. I will bring help. I can fly."

One scrawny claw kicked at the bands of muscle above his head. "The pouch is weak here. You are strong. You will make it open. You will hold it until I escape. I can fly. I will bring help."

Moran stiffened his legs, and braced both hands where the gollywog had pointed. Sure—he'd open up, if it could be done. As for letting the little rat make his getaway alone, that was something else. He gritted his teeth and heaved. With surprising ease the walls of muscle parted. He thrust his shoulders into the gap, hitched his knees against the opposite side, and shoved.

He was in starlight. Fifty feet below drifted a sea of swirling, heaving clouds. Above, a vast black naked body blotted out the stars. This was a Stalker! This thing that walked on mountains!

The Murath's bristling head pushed up beside his legs. It climbed out and perched precariously on the lip of the pouch, staring owlishly out over the panorama of mountain crags that rose about them. The Stalker was deep in the heart of the unknown ranges, and every swing stride was bearing them farther. Then below sounded a shrill, piercing scream of rage. The *sheetag!* The Stalker stopped.

Two vast bat wings spread before him and Shag dived spinning into space. His tiny body swung like a grape between his great black wings. They flapped slowly, ponderously, lifting him higher and higher above the encircling peaks, carrying him with

each beat farther from the colossal body of the Stalker. Then out of the rolling cloud-sea burst a shape from nightmare—the second Stalker!

Two hundred feet—three hundred—how could he measure it in that phantom light? Only the weak gravity of Tantalus could spawn so monstrous a thing. The mists boiled about its shoulders, about its waist, about its plodding legs. Legs like the massive columns of centuries-old trees. A body broad as an ether ship, squat, bent, blotting out the sky. A head peaked and misshapen, with glowing yellow eyes like gibbous moons. And arms like the flails of Death himself, striking like mighty serpents at the tiny winging shape!

Some updraft from the steepled crags caught the Murath and spun him upward like a leaf. The smiting talons swept harmlessly beneath him; he rocked dizzily in the boiling air currents, then tilted his giant wings and slid like a drifting shadow into the abyss.

Again that vast claw struck—and missed. The winged dot swerved deftly from its path. The black wings folded and Shag fell like a plummet into the seething mists. Only the furrows left by raking talons showed where he had been.

A spasm shook the wall of muscle against which Moran was braced. Spurted like a melon seed from between the closing lips of the pouch, he sprawled over emptiness while the clouds rushed up to meet him. Then out of nowhere came a giant, glistening hand that caught him, crushed him, thrust him kicking into oblivion.

It seemed that he came swimming up out of unfathomable depths. A glassy wall stretched over him, barring him from the light. He beat at it with his fists—burst through and yelled with all the pent-up agony of bursting lungs. His feet were under him, firm on solid stone, and he shouted blind defiance at God and man.

He saw the sprawling city of the Stalkers.

Walls of splintered rock soared upward into the clouds. He stood a thousand feet above the valley floor, on a terrace of cut stone, with the grotesque hovels spread before him like children's blocks rolled on a table top. Slabs of gray granite, toppled together and chinked with blocks of softer stone. Barrows of heaped boulders, covered with baked mud. Walled in cran-

nies of the living rock, black with damp and dirt and decay. And beyond an endless labyrinth of smooth-cut blocks, ruined and desolate, stretching out mile after mile across the valley floor.

A city—and the memory of a city.

Giants had built it when Tantalus was young. Giants dwelt now in the hovels that huddled in the shadow of its colossal walls. Giants vaster and more terrible than anything in men's dreams, dwarfed by a glory that was dead and forever lost.

Steps climbed from the valley, each tread thrice a tall man's height. At their foot the Stalkers stood. There was a score of them—all that remained of the race that had raised the city of the plain. Their bodies were a mockery of man's, their arms dangling, simian things with three-clawed hands, their feet splayed, cloven hoofs. Their heads were like the twisted wedge of an earthly Brazil nut, the flat, curved bases turned ahead, the sloping sides meeting in a bony ridge that ran in a frill of jagged bone down their massive backs. An eye was set in each slantface, great faceted yellow jewels peering out of pockets in the rubbery black flesh. A beaklike mouth split the forward apex of the wedge, and from its scarlet lips came a humming like the purr of a giant cat.

Behind him sounded an answering trill, shrill, sweet—and terrible!

Moran spun in his tracks. Pylons of cut stone rose on either hand, framing a mighty gateway in the cliffs. Beyond them, cut out of the gorge's floor, was a pit, blocking it from wall to wall. A pit—and in the pit a toad!

Great webbed paws were bowed under its bleached white belly. Its flat, warty head hung level with the terrace where he stood. Its golden eyes blinked sleepily, hypnotically, at the little group that cowered at the pit's edge—the creatures of the pouch.

Fear froze them in their tracks—fear and the fascination of those burning eyes. They swayed on their feet to the murmuring rhythm of the Stalkers, to the shrill piping of the monster toad. But now that crooning trill stopped short. Instantly one of the little pink things turned and ran. Faster than sight the toad's pale tongue licked out—and it was gone. Again from the valley he heard the exultant mutter of the Stalkers.

Pictures were racing through Moran's brain. Pictures of Earth,

and he a boy, sprawled flat in the cool green grass beside a little stream, watching a toad eat ants. Time after time that lightning-swift tongue had struck, and each time an ant vanished. But always an ant that moved!

An ant that moved! Moran's muscles tensed. Billion on billions of miles separated this colossal monster from the little, harmless toads of Earth, but perhaps the force of evolution that had given them life had acted in the same way on this mad, black world. Perhaps this toad too saw only things that moved.

Slowly, slowly his fingers crept across his thigh, behind his back, where his knife should be. It came loose in his fingers and that hand crept slowly back. Eyes on the toad's great jeweled ones, he waited for that moment when its deadly trill would cease. Soon now—

Before it came he flipped the knife. It spun in a shining arc, stood quivering in the furry shoulder of the weasel-thing. With a scream of rage it spun, leaping like a black arrow toward him, but the toad was quicker. Its tongue licked out—was gone—and with it the *sheetag*. In that instant Moran sprang.

Five great strides took him to the pit's edge. Legs that had not faltered under accelerations of five gravities flung him into space. Feet first he struck between the toad's great, staring eyes. He slipped, fell to his knees, then before the monster's sluggish brain could know what had happened was on his feet and running, leaping, rolling on the gorge's rocky floor. Behind him the purring of the Stalkers rose to an angry buzz. He heard their great hoofs pounding on the stairs, the slap of the toad's webbed paws on the pit's walls as it turned. Scrambling to his feet he began to run.

The ravine twisted upward between sheer walls of solid rock. The floor was worn smooth by the tread of countless naked feet during endless years. Two hundred feet above him he could see the black smears where generations of Stalkers had rubbed their sooty shoulders against the rock. Below, at a man's height, were other smears where other, smaller things had gone. What was it that drew them, here in the desolate heart of the ranges?

As he climbed he began to feel the wind. The valley of the Stalkers was sheltered, but now he was rising above the level of the bounding cliffs, close under the cloud blanket, and as he advanced the force of the wind increased until he was leaning

against a howling gale. It was raining again, a slow drizzle, and the fine droplets stung his face and bare body, washing away the mud that had caked on them.

By the time he reached the summit of the pass he was crawling on all fours, digging his fingers into crannies of the rock, hugging the walls of the ravine for what little shelter they afforded. He was in the midst of the clouds now, so that he groped his way through an impenetrable fog, lit from above by the weird blue light of distant Sirius.

On and on he crawled, driven now by a blind determination that seemed to have been born of the wind and the fog. Whatever happened, he would not turn back. Something there ahead called him as it had called countless other beings of many worlds through untold centuries.

At last the path led down. An icy rivulet ran ankle-deep in the groove that was worn in the soft slate by the plodding of many feet through many years. Soon he was below the clouds again, and the gorge was widening and deepening into a canyon whose fluted walls were a great harp on which the winds played dolefully. How far he had come from the valley of the Stalkers and their monstrous toad-god, he did not know. Nor did he care. There ahead, near now, was—something.

Ahead a natural archway spanned the gorge. It had been shaped into a gateway through which the wind screamed, a window above emptiness through which poured a flood of violet light. Battling his way foot by foot against the tempest, Moran came to the gateway and looked through.

Another valley lay below him, carved out of many-colored sandstone by the fury of the winds. Weird columns of red and orange rose from its barren floor, and the black slits of dry arroyos channeled its painted walls. Dykes of volcanic rock angled across it in an insane labyrinth, the softer shales and sandstones eaten away from around them, leaving them like the cyclopean tumbled ramparts of a city of the winds.

He did not see the weird beauty of that painted garden. He did not see the black dots that were caves in the gray limestone that underlay the painted rocks. He looked beyond, at the Black Hole of Tantalus—and the thing that gave it birth.

Opposite him the wind-carved minarets drew back from a

road of purple quartz that formed a slowly rising ramp across the valley floor. Closing the valley's eastern end rose a cliff of black obsidian, splintered into a myriad of knife-edged facets by the terrific forces that had raised it from the depths of the planet. At its foot gaped the abyss.

Ten miles it must have been, between the obsidian wall and the rock of its nearer lip. Out of it poured a torrent of violet light, striking back with countless scintillant spear-shafts from the broken cliff. Above it the clouds spun back in the mighty whirlpool of the Black Hole, through which streamed the cosmic forces of the abyss that could suck a ship out of space against all the power of a hundred drumming jets. And where the road of amethyst met its edge there rose a shaft of clear crystal, six-sided, blunt-tipped, thirty feet and more from base to tip, through which the light from the planet's heart beat in a shower of fiery radiance. A giant crystal of pure, clear quartz, and at its heart a cavity, a bubble, in which floated a thin black speck that was—something.

The path led down through the maze of steepled rocks. At the first turn the abyss was lost to sight. It was then he saw the dwellers in the caves.

There were perhaps thirty of them, of a dozen races and worlds. There were Blueskins from Tantalus' own reeking jungles, and leather-bellied dwarfs from the red deserts of Mars. There were three-eyed, six-armed drogas from the twin worlds of Alpha Centauri, and octopus-armed lizards who inhabited the last of the six planets that circled Sirius. There was the tiny form of a Murath, one great wing burned away by a ray-blast. And old and young, short and tall, there were men of Earth!

They stood on the slope in front of the caves, gaunt and silent, eyeing him dourly. Moran tugged at his belt where a gun should be and squared his naked shoulders. They didn't seem overjoyed at the sight of him. Food was probably scarce here, and he was another mouth to cut down their rations. Well—they'd take him, and they'd like it!

As he came down from the rocks their line split to let him through. He felt a prickling at his spine as he passed between them, but no one moved to harm him. At the mouth of the largest cave he turned, his arms folded, his back to a great block of fallen stone.

"Now then," he demanded, "let's have it."

One man stepped forward from the rest, a Negro with the fine features and silky hair that meant Venusian blood.

"You're new here," he said tonelessly. "You're big and maybe you feel big. Maybe you'll have ideas about doing things, and about who'll do them. I wouldn't if I was you."

A grin came on Moran's bronzed face. He knew this kind of talk. "I might at that," he admitted. "And what would you gentlemen be thinking you might do about it?"

Three others aligned themselves with the black man. One was a Martian, with the shoulders and dangling arms of a bull ape. The other two were men his own size, or bigger.

"We've laws here," the Martian hissed. "We have ways of keeping them. There are four of us who see to that. You will eat when we tell you and what we tell you. You will sleep where we say and do what work we say. That is the law here, and you will obey it."

"Is it now?" Moran's thumbs were in his belt, and he teetered appraisingly on his toes. "So that's the way of it—little to eat and a devil of a lot too many to eat it. There'll be rations, I'm thinking, and the four of you to share them out when the time comes." He let his gaze wander insolently over the sullen faces of the crowd and back to the four who confronted him. "Now then, have you ever held the thought to make it five?"

The taller of the two white men answered. He had a knife scar on his cheek, and one ear had been mutilated by a ray-blast. "You're new here, fella," he sneered. "There's meat on your bones and blood in your guts. You'll take new men's rations till we and the boss say different. You'll do what we say, when we say it, or we'll pare you down a size in the collar and a couple more in the head."

Moran's grin was insulting. "Oh my, oh my," he deplored. "Is there no sportsmanship left in the race of man? Four of you against one, and you with your sour-looking friends to boot. Yah!" He spat contemptuously. "Come on, the four of you! I'll take any one of you with my hands tied and bend you into knots! I'll take all four of you—yes, and your friends besides—and show you who'll make the laws in this place from now on! Show me this skulking boss of yours, and by the saints I'll—"

"You will what?"

A man stood in the cave mouth, an old man, with white hair and beard, taller than Moran. He wore shorts and a jerkin of leather, and his arms were folded on the hilt of a mighty broadsword.

Moran turned to face him. Here was a man of another sort, a man he could treat as an equal.

"You'll be the boss, I think," he sneered. "And you a man past your best years. Faith, it must be no trick at all, to handle this gang of bezabors you have here."

"Do you think so?" There was a queer light in the old man's eyes. They were eagle eyes, peering under snow-white brows into Moran's face. The steely ring had gone out of his voice when he answered. "You have a name, I think. What, among friends, might it be?"

"Friends is it?" Moran snorted. "You talk softer than the boys here. It's maybe different if you've a man to buck, in the place of a lot of starved bilge rats with no starch in their knees. There's no secret to it, though—friend or foe it's Moran."

"Danny! My boy!" The great sword fell clanging on the rock. Tears were in the old man's eyes and his hands were outstretched. "Danny Moran—have you forgot your father?"

Moran gripped the oldster's two shoulders. The grin was back on his face and twice as broad.

"Paddy Moran is the way of it," he said, "not Danny. Patrick Terrence Aloysius Moran is the whole of it, and a name that's known from here to Capella and maybe farther. Danny Moran was my father, God rest his soul, before the drink got him and he went off by his lone self after chib-bugs on Pluto. Is there a chance at all that you would be that teetotalin', horse-stealin', space-blisterin' old reprobate of the world, my esteemed old spalpeen of a grandfather?"

He knew it before he asked. The Moran face was there, under the white beard, and the Moran eyes, and the muscles of the Morans rippled under his fingers in shoulders that were eighty years old and more besides. It was thirty years ago that Michael Moran had steered his ship into the black gulf that is between the stars, and vanished like dust into space. Thirty years ago Patrick Moran was but a likely glint in his father's eye as he surveyed the pretty girls of Dublin. There had been tales told of the teetotaling giant with ready fists and a readier tongue who

seemed always to have scrip in his wallet and a chip on each of his broad shoulders, but they ended where they began, in emptiness. Old Michael Moran was a legend among space hogs, and another Moran was fast becoming one in his own right.

A grin stood on the old man's face. His gnarled fist smote Moran's chest with a blow that would fell an ox. His arm went around the younger man's shoulder as he turned to his watching men.

"Ye've a Moran to deal with here, ye blaggards!" he roared. "Blood of my blood, and by the feel of him bone of my bone. He'll whip any five of you with his two hands tied and a quart of liquor in him, but by the Lord Harry if he touches a drop in my presence I'll have the hide off his back for it! Zagar—Moses—come here, the pack of you. Wolves that ye are, you've a better wolf than any of you to fawn on and ye'll feel his fangs too if need be, as ye've felt mine! He's new, but he's a Moran, and we'll stew the fatted calf in his honor, and be damned to tomorrow!"

The Martian's face was dark. "The ration's too short now," he hissed. "There's ten days before we'll get more. By what right do you break the law for a new man?"

Moran felt the old man stiffen beside him. One foot came down on the great sword, so that it clanged faintly on the rock.

"I made the law," the calm voice said. "I'll make new ones if need be. Would you, perhaps, care to make a trial of it?"

Zagar's glance fell. "You have the sword," he mumbled.

"I have indeed." The old man picked it up and stood again with his hands clasped on its massive hilt. It was beaten out of a strange gray steel, tempered blue at the edges, and as broad as a man's thigh. "With my own two hands I made it out of the star that fell, and as ye've cause to know I've used it. Are there, maybe, some of you that think it has grown too heavy for me to swing?"

"The law's for you, not us." It was Moses, the Negro. "You made it to suit yourself and you break it to make a feast for a man who has no need of food. You've kept us to a ration that a dog would starve on. You've kept us weak and sick, so you could lord it over us with your loud mouth and your big sword. We're thirty men, hungry, and you'll swill away our food!"

"And what will you do?" Moran felt the old man's elbow against him, pushing him back.

"We're bare-handed and you have the sword. All right. You asked if we thought you could still swing it. Well—can you?"

Quick as was the Negro's spring, the boss was quicker. The great blade fell in an arc of blue light. Split to the breastbone, Moses dropped at his feet. Then before he could free the sword the Martian was upon him.

The glint of battle shone in the old man's eyes. He caught the squat form in his two hands and swung it above his head, then hurled it, twisting and sprawling, into the mob. At his side Moran was slugging knee to knee with the bigger of Zagar's two companions. He felt the man's ribs come under his fist, saw bright red blood spurt from his lips, and stepped over him to meet the charge of the half-mad pack.

Months of starvation had told on them. In bloody glee Moran smashed at their bony faces, kicked at their crowding bodies, before the tide closed over him. He dug his thumbs into the throat of a snarling Blueskin uglier than old Wallagash. He ducked past the six flailing arms of a Centaurian and pushed back his scaly, three-eyed skull until his bull neck cracked. Then a tentacle as thick as his arm twined round his throat and began to tighten. As he raised his hands to tear it away, a second twisting tendril fastened on his wrists. A bloody haze thickened before his eyes. A pulse of spent air throbbed and hacked at his throat. Then with the clang of steel on iron-hard scales the tentacles loosened and he fell to his knees. He heard a great voice roaring somewhere near him. The mist cleared and he saw the old man, his sword red to the hilt, standing spread-legged over the cloven body of the lizard-man and shouting his defiance at the mob.

"Come on!" he cried. "Show me the stuff in you! There's but the two of us here, and me a grandfather to boot. Can I swing the sword yet, did you ask? Can I prove the law, who made it? Rats is what you are—crawling, squeaking rats! Is it food you're wanting? There's carrion for you! Fill your bellies so you can crawl into your holes like the rats ye are and dream of the day when you'll pull down Michael Moran. Or will you go to *her* and get your fill of what she'll give you?"

They quailed before him. Six of them were dead and Zagar

lay writhing with a broken back. They retreated as the old man strode to where the crippled Martian lay.

"You know the law," he said quietly. "There's only death for you, the way you are, and you've got the choice. Which is it, the sword—or her?"

Moran saw black venom in Zagar's eyes. The flat brown face twisted in a leer of hate. "I claim the law!" the Martian hissed. "Take me to her!"

Dead silence followed his reply. Leaning on his sword, the old man stared into the hate-filled eyes. He shook himself like a great, shaggy dog.

"Pick him up, Paddy Moran," he commanded. "You'll be with us a long time, and you may as well know the whole of it now as later. Follow behind me now, and remember—kin of mine or not, I'm boss!"

Shouldering his bloody sword like a rifle, the old man strode down the broken slope in front of the caves. Picking up Zagar, Moran followed. An impulse came over him to crush the life out of that hate-filled dwarfish body and fling it away among the rocks, but the Martian's whisper stopped him:

"I claim the law!"

Following paths which old Michael seemed to know well, they wound their way through the labyrinth of wind-worn, gaudy stone, forcing their way against the howling gusts of wind that buffeted them from every side. They came to a little stream, a mere trickle of icy water running in a groove in the soft rock, and stopped to wash the blood from their faces and bodies and to clean the great sword. At last, through an avenue in the rock, Moran saw the amethyst dyke rising before them, its top a good fifty feet above the rock of the valley floor. Blocks of broken crystal made a steep way to its top, and up that broken away they climbed until they stood side by side on its bare summit, that ran like a great smoky purple road to the east.

Here in the open they were exposed to the full force of the wind. The dyke was glassy-smooth, and Moran had all he could do to keep his footing as he followed the old man along its top toward the abyss. He tried to speak, but the wind snatched the words from his mouth. He bowed his shoulders over the now unconscious Martian and struggled on.

Straight as a drawn line the purple causeway ran, splitting the valley in two halves. As they struggled on, the giant clear crystal at its end loomed ever higher before them and the dazzling radiance from the abyss beat ever brighter upon them, until they were forced to shield their eyes. A sudden gust spun Moran around and flung him to his knees, and as he rose he saw that the others were close behind them.

The old man walked cradling the sword in his arms like a child, his white head bowed. Moran could feel the fierce light on his skin, burning deep into it. Then it was welling up through the rock under his feet, beating in on all sides, so that it seemed that he walked on a ribbon of purple ice, flung out in a great projecting frost-tongue over the abyss.

The old man stopped. The dyke was narrow here, barely eight feet across, and the mutter of the wind had died until Moran could hear his voice.

"Lay him there at her feet."

Moran strode forward, one pace, two and three, and laid the body of the Martian at the base of the crystal shaft. He stepped back and looked up.

He saw her floating there.

She was a woman, taller than most, and slim. Her hair streamed in a red glory over her bare white shoulders, covering her body with a veil of silken flame. Her hands were pressed flat against her body, each pink fingernail showing as though lit from within. Her head was bent a little to look down, her red lips parted breathlessly. Her eyes were closed and the long dark lashes lay gently on her cheeks that were soft as white velvet.

She floated in a hollow in the quartz, an oval casket filled with violet radiance that surrounded her like a halo. The light from the abyss seemed somehow collected, curdled, compressed into the intangible medium in which she swam, her little feet pressed close together, her ten pink toes treading on emptiness. She was woman as men have dreamed of her since time began, and in him Moran felt the hot desire flooding up through his veins and bringing all the savage fury of love out of him in a mighty shout.

His grandfather's hand was on his shoulder and he shook it off. He stepped forward, stiff-legged, like a robot walking. He heard the Martian's cackle of mad glee.

He saw her green eyes open and look down at him.

Out of the world went everything but the love and the glory of her. Out of the world went everything but the red, red welcome of her parted lips, and the warm pleasure of her burning hair. Into his soul swam the glory of her sea-green eyes, calling him, drawing his life out to mingle with her life in a Nirvana never known to man.

In a world where the grass was springing emerald flame, where the trees drooped with clustered pearls for fruit and the streams were molten sapphire he wandered at her side under seething purple skies, and drank from the silver cup she held for him, feeling a flame of radiant fire surging through his veins as he sank with her into the clinging purple mists from which she drew her immortality—and his.

In a world where soft, perfumed breezes blew over spindrift of apple-jade and slow waves curled along coral sands, he lay dreaming under a moon of argent and shadowy purple, under a sky studded with diamond stars. In shadowed darkness, arched over with the filmy fronds of giant ferns, bedded on tufted mosses, he lay and played at love with maidens who ran from him through the pulsing darkness and danced among the silver moonbeams, mockingly, whose ringing voices called him, lured him, over hill and dale until in the cool gray light of dawn he came upon them bowered among orchids and saw them melt and merge into a shining, yielding One.

Flesh of her flesh he hung in the void above the Universe and saw it spread in a shining cloud beneath his spurning feet, saw it receding to a pin point of misty light as he rushed on and up and out into the utter blackness of space, held in her slim, warm arms, bathed in her fiery hair, drinking the sweetness of her crimson lips—until in all Eternity were only they two, and the hungry, feasting love that made them one, man and woman, until the end of time.

Soul of her soul he swam in a place of fires that burned without warmth, of tiny glowing motes that drifted up out of nowhere and swirled about his head like perfumed smoke. He caught one between finger and thumb, and held it up for his mind to probe it and know it for a universe of universes, infinitely small, infinitely remote, where the lifetime of a world was but the ticking of a pulse. Yet in that microcosm he lived as he

lived in the place of flame, and she with him, holding her to him with the green promise of her half-closed eyes, weaving a web with the copper glory of her hair, drawing him down, down, down into unfathomable blackness where there was only the green, cold light of her two eyes, staring, staring out of nothingness.

And then her soft hand was in his, drawing him away into a place where there was only herself and the beauty of her, like a thing alive and breathing, where he was but a hungering, longing atom of her being, merging in her, looking out through her eyes upon a world of mad, warped shapes that filled him with fear and loathing, and with a hate that came into him out of her and filled him with blinding rage—rage that eclipsed all save the smile on her soft, warm lips and the half-closed eyes that regarded him under drooping lashes—hate that split him in two parts, a part that fought and slew and a part that watched.

He saw one who wore his shape wrest the great sword from the old man's hand and buffet him to the ground. He saw that one charge berserker upon the huddled crowd of men, hewing at them like a woodsman at a tree, beating at them as with a flail of steel, driving them before him like milling sheep. A silver thread ran from him to that one whom he saw, and over it came surging a great, cold glee, and the slippery stickiness of fresh blood warm on his hands, and the salt taste of blood on his lips, that were her lips, licked by her pointed tongue. He felt the evil joy welling up in her at the odor of death that was in the air, and it seemed that it drove out the self that was in her, and made it one with he who stood and slew.

He was that one, there on the purple path, with the great sword in his bloody hands and the blood of slaughtered men wet on his face. And behind him, where the witch-woman swam in her crystal sepulcher, he heard the rasping, vengeful cackle of Zagar, the Martian.

All the lusts of his man's body had been sucked up by the witch's gaze—the lust of man for woman, and the lust of man for gold, and the bloody lust of man for war and death. Those lusts were gone from him, and he stood, now, cold and empty, staring at the old man, his grandfather, where he lay senseless at the abyss' edge. He saw the Martian, twisted with pain at the

crystal's base. And he saw again the woman floating in her mist, with the dark evil standing naked in her green eyes.

The red sword swung in an arc of steel and smote at the crystal's face. Again—again—and the whole world rang with the clamor of steel on quartz. But the walls of the bubble that held her were thin, and with the third mighty blow they shivered and rained about him like needles of clear ice. Again he raised his dripping sword—and met her clear green eyes.

Slowly his arms fell limp at his sides and the sword fell at his feet unheeded. Her small bare feet stepped daintily down among the broken shards. Her red hair flowed back over her round white shoulders, revealing all the loveliness of her witch's body, and her two slim hands were held out to him in invitation.

It seemed that an icy draft blew on his chest as he took her hands in his. Uncomprehending he saw the long white welts that rose where her fingers touched him. Her hands were on his arms now, sapping away their strength, and her red lips were raised to his, her pointed tongue licking out between her sharp white teeth. There was a perfume on her hair and her body, pungent and intoxicating, that filled his brain and drugged his reeling senses. He felt her body against his, and all its promise poured through him in a numbing, chilling wave that left in him a single core of searing fire. Her eyes were closed, but now they opened slowly and he plunged recklessly, hopelessly into their fathomless green depths.

In him a bubble burst. An atom of white fire exploded in his brain, scourging him, cleansing him. He looked into his grandfather's steely eyes, over the sundered, bloodless body of the woman-thing, cleft by a single blow of the great gray sword. He raised her body up in his two hands, and it was light as a husk of shadow and cold as the touch of Death. He hurled it out into the sea of violet flame, and saw it drift and spin and sink like a feather into the abyss. Then the fury of the winds burst over them and he was flat on his face at the abyss' edge, clinging with bleeding fingers to the jagged quartz.

Inch by inch he dragged himself back from the verge, along the ribbon of amethyst to a place where he could scramble down into the shelter of the rocks. His grandfather was there, with the others who were still alive. The old man's hand seized his arm in a grip of iron.

"You did it, boy! You did what every man of us has tried to do since we were spilled into this hell's paradise! You went to her freely, and you broke her spell and her power with it. We've only the Stalkers to face now, and with her gone I'm thinking it will be a different tale."

Moran shuddered. If the old man's arm had not been strong and his eye sure, those full red lips would have touched his. What lay beyond he dared not guess. What had she been—she with her woman's shape, a woman's allure, yet dry and bloodless like a husk of cast skin? What manner of unnatural force kept the life in her, there in her crystal tomb and after? What would have been the price of that last kiss—or its reward?

"Tell me about it," he said huskily. "What's it all about?"

"She was the answer," the old man told him. "Once there was a reason for it. They had brains, those old Stalkers that built the city and put her here. They knew what they were doing, but now—he spat contemptuously—"these things that've come down from them do what they do because it's habit, because their parents did, and theirs before them, because their pint-size brains haven't room for anything but the things they've always done. Maybe she was a goddess, if things like that can have goddesses. Anyway, every time things were fixed so that Sirius' companion star shone through the Black Hole they'd bring food and leave it by the crystal. We lived on that, and men like us have lived on it for Heaven knows how long. She never touched it—not her. *We* were the food she craved!

"I don't know if they found her here, those old Stalkers, or if she was from another star, maybe another universe, and they put her there in the crystal to keep her from getting at them. She'd have taken them, all right. She drew no lines, but she liked her own kind best. She took them when she could. You've been through it—you know, maybe, what it was—but she left them dead and drawn, with something gone out of them—and smiling. It was the choice we gave to them that broke the law—quick death by the sword, or her. Some of 'em took her—

"That's where the toad came in. She needed strong men, big men, men with brains that could fight her, that she could play like a fish before she took the life out of them. The Stalkers would bring what they could get, and them that got past the toad were fit for her. There's been a lot of us, since I came here.

It took a quick brain and a strong body to make it, and she got the best there was."

"Why did you stay here?" Moran demanded. "There must be some way out."

"Hell, we've all tried that!" It was a scarred half-caste from one of Earth's stray colonies. "There's no way, only the way we came, and there you've got the toad to pass and the Stalkers if you make it. With her dead we'll starve here. There was worse things than goin' to her!"

Moran's eyes narrowed. "Are you man enough to risk the Stalkers if I handle the toad?" They stared at him blankly. "They're big but they're stupid; some of us'll get through. Do you have the guts to try?"

They shuffled forward, one by one, until they were crowding around him. "All right," he told them, "you've got leather—make me two ropes, strong ones, and get together whatever you've got to fight with. Grandpa and me'll do the rest."

It was night when they crossed the summit of the pass and crept down the gorge through the eternal rains—a dozen men, armed with broken stones, knives of chipped flint, or their bare hands. Ahead of them went Moran, his eyes and ears alert for any sign of danger, and at his side marched the old man, fondling his beloved sword.

Shortly after dawn Moran gave the word. They lashed the ropes securely about his body and snubbed them about projections of the cliff. He walked slowly toward the edge of the pit. The toad was waiting. Slowly its flat head rose, its golden eyes blinked, and that hypnotic trill began to throb from its swollen throat. A chill of horror brought the cold sweat out on Moran's skin. What if the ropes should break?

He was at the limit of his tether now. Fascinated, he stared at the hideous face that hovered at the pit's edge. Gritting his teeth, Moran waved his arms. The trilling stopped; the great toad's muscles tensed. With a shout Moran leaped back.

At once the pallid tongue licked out. He felt its sticky mass envelop him, felt the leather thongs cutting into his flesh as they resisted its pull. He was suffocating, strangling, the breath crushed out of his bursting lungs. Then came the scramble of feet on the stone and old Michael Moran was at his side. He

heard the clang of steel on stone, and the severed tongue dropped at his feet. A second blow and the ropes were cut, and the two men sprang forward into the pit. Side by side they stood on the toad's broad skull. Seizing the sword, Moran raised it high above his head and smote with all his strength. Blood and brain pulp spurted from the cleft in the monster's skull, and the last dying kick of the great creature flung them from its back. Then it was still, and they were clambering up over its colossal bulk, out of the pit, with their crew close at their heels.

The Stalkers were aroused. In the half light of dawn Moran could see their ungainly forms scrambling out of their barrows, hear them calling out to each other in their purring voices. He saw their eyes glowing in the darkness like golden moons as they stalked across the valley toward the stairs.

Moran looked at his grandfather. The old man's legs were braced, his white locks whipping in the wind. The others were close behind—ten grim-faced men, armed with chipped stones and bits of wood, waiting to die fighting against inhuman giants thirty times their size. With room to run, to dodge, to hide among the ruined buildings of the deserted city, they might have escaped. Here, penned on this narrow ledge, they had no chance. Even the great sword could do nothing against those giant bodies.

He took the old man gently by the arm. "Give me the blade," he said. "You've had your fun, now. Let it be Paddy Moran that shows the creatures the welcome we have for them."

Cradling the sword in his arms as his grandfather had done, he watched them coming up the steps. Their heads towered far above him; they were almost within reach. He flung a curt order over his shoulder: "Wait—then run for their legs. They'll be a bit busy at the first, and you'll maybe get through."

Grounding the sword's point, he tensed for the first futile blow.

Black hail screamed down across his vision. Great sweeping wings—long, shining lances—ray guns spitting out their needles of white fire. In hundreds and thousands, streaming from the clouds like rain in a headlong dive, the Muraths came.

Bewildered, the Stalkers stood in a huddle, midway of the stairs, their misshapen heads cocked upward, their vast arms

hanging limp. Then they were in retreat, stumbling across the plain to the shelter of the ruined city, striking vainly at the buzzing, darting mites that zoomed and banked about their heads striking death with rays and stabbing spears. Five of them lay dead and others were staggering, falling, to lie still on the bare stone.

Out of the winged horde one tiny figure dropped toward the watching men. It braked deftly and landed at Moran's feet. "Greetings, O Man," it croaked. "Shag holds his word. Life for life—that is law."

It was Shag, the Murath, who showed them the road through the Mountains of the Night before he returned to complete the slaughter which his winged legions had begun. From time immemorial Stalkers and Muraths had warred, and many of Shag's kinsfolk had gone to feed the great toad in the Stalkers' pit. Never before had one of them escaped, to lead his race back to the hidden stronghold of the giants and to their vengeance.

Placet is a Crazy Place

BY FREDRIC BROWN

EVEN WHEN you're used to it, it gets you down sometimes. Like that morning—if you can call it a morning. Really, it was night. But we go by Earth time on Placet because Placet time would be as screwy as everything else on that goofy planet. I mean, you'd have a six-hour day and then a two-hour night and then a fifteen-hour day and a one-hour night and—well, you just couldn't keep time on a planet that does a figure-eight orbit around two dissimilar suns, going like a bat out of hell around and between them, and the suns going around each other so fast

and so comparatively close that Earth astronomers thought it was only one sun until the Blakeslee expedition landed here twenty years ago.

You see, the rotation of Placet isn't any even fraction of the period of its orbit and there's the Blakeslee Field in the middle between the suns—a field in which light rays slow down to a crawl and get left behind and—well—

If you've not read the Blakeslee reports on Placet, hold on to something, while I tell you this:

Placet is the only known planet that can eclipse itself twice at the same time, run headlong into itself every forty hours, and then chase itself out of sight.

I don't blame you.

I didn't believe it either, and it scared me stiff the first time I stood on Placet and saw Placet coming head-on to run into us. And yet I'd read the Blakeslee reports and knew what was really happening, and why. It's rather like those early movies when the camera was set up in front of a train and the audience saw the locomotive heading right toward them and would feel an impulse to run even though they knew the locomotive wasn't really there.

But I started to say, like that morning. I was sitting at my desk, the top of which was covered with grass. My feet were—or seemed to be—resting on a sheet of rippling water. But it wasn't wet.

On top of the grass of my desk lay a pink flowerpot, into which, nose-first, stuck a bright green Saturnian lizard. That—reason and not my eyesight told me—was my pen and inkwell. Also an embroidered sampler that said "God Bless Our Home" in neat cross-stitching. It actually was a message from Earth Center which had just come in on the radiotype. I didn't know what it said because I'd come into my office after the B.F. effect had started. I didn't think it really said "God Bless Our Home" because it seemed to. And just then I was mad, I was fed up, and I didn't care a holler what it actually did say.

You see—maybe I'd better explain—the Blakeslee Field effect occurs when Placet is in mid-position between Argyle I and Argyle II, the two suns it figure-eights around. There's a scientific explanation of it, but it must be expressed in formulas, not in

words. It boils down to this; Argyle I is terrene matter and Argyle II is contraterrene, or negative matter. Halfway between them—over a considerable stretch of territory—is a field in which light rays are slowed down, way down. They move at about the speed of sound. The result is that if something is moving faster than sound—as Placet itself does—you can still see it coming after it's passed you. It takes the visual image of Placet twenty-six hours to get through the field. By that time, Placet has rounded one of its suns and meets its own image on the way back. In midfield, there's an image coming and an image going, and it eclipses itself twice, occulting both suns at the same time. A little farther on, it runs into itself coming from the opposite direction—and scares you stiff if you're watching, even if you know it's not really happening.

Let me explain it this way before you get dizzy. Say an old fashioned locomotive is coming toward you, only at a speed much faster than sound. A mile away, it whistles. It passes you and *then* you hear the whistle, coming from the point a mile back where the locomotive isn't any more. That's the auditory effect of an object traveling faster than sound; what I've just described is the visual effect of an object traveling—in a figure-eight orbit—faster than its own visual image.

That isn't the worst of it; you can stay indoors and avoid the eclipsing and the head-on collisions, but you can't avoid the physio-psychological effect of the Blakeslee Field.

And that, the physio-psychological effect, is something else again. The field does something to the optic nerve centers, or to the part of the brain to which the optic nerves connect, something similar to the effect of certain drugs. You have—you can't exactly call them hallucinations, because you don't ordinarily see things that aren't there, but you get an illusory picture of what *is* there.

I knew perfectly well that I was sitting at a desk the top of which was glass, and not grass; that the floor under my feet was ordinary plastiplate and not a sheet of rippling water; that the objects on my desk were not a pink flowerpot with a Saturnian lizard sticking in it, but an antique twentieth century inkwell and pen—and that the "God Bless Our Home" sampler was a

radiotype message on ordinary radiotype paper. I could verify any of those things by my sense of touch, which the Blakeslee Field doesn't affect.

You *can* close your eyes, of course, but you don't—because even at the height of the effect, your eyesight gives you the relative size and distance of things and if you stay in familiar territory your memory and your reason tell you what they are.

So when the door opened and a two-headed monster walked in, I knew it was Reagan. Reagan isn't a two-headed monster, but I could recognize the sound of his walk.

I said, "Yes, Reagan?"

The two-headed monster said, "Chief, the machine shop is wobbling. We may have to break the rule not to do any work in mid-period."

"Birds?" I asked.

Both of his heads nodded. "The undergound part of those walls must be like sieves from the birds flying through 'em, and we'd better pour concrete quick. Do you think those new alloy reinforcing bars the *Ark*'ll bring will stop them?"

"Sure," I lied. Forgetting the field, I turned to look at the clock, but there was a funeral wreath of white lilies on the wall where the clock should have been. You can't tell time from a funeral wreath. I said, "I was hoping we wouldn't have to reinforce those walls till we had the bars to sink in them. The *Ark's* about due; they're probably hovering outside right now waiting for us to come out of the field. You think we could wait till—"

There was a crash.

"Yeah, we can wait," Reagan said. "There went the machine shop, so there's no hurry at all."

"Nobody was in there?"

"Nope, but I'll make sure." He ran out.

That's what life on Placet is like. I've had enough of it; I'd had too much of it. I made up my mind while Reagan was gone.

When he came back, he was a bright blue articulated skeleton.

He said, "O.K., Chief. Nobody was inside."

"Any of the machines badly smashed?"

He laughed. "Can you look at a rubber beach horse with purple polka dots and tell whether it's an intact lathe or a busted one? Say, Chief, you know what you look like?"

I said, "If you tell me, you're fired."

I don't know whether I was kidding or not; I was plenty on edge. I opened the drawer of my desk and put the "God Bless Our Home" sampler in it and slammed the drawer shut. I was fed up. Placet is a crazy place and if you stay there long enough you go crazy yourself. One out of ten of Earth Center's Placet employees has to go back to Earth for psychopathic treatment after a year or two on Placet. And I'd been there three years, almost. My contract was up. I made my mind up, too.

"Reagan," I said.

He'd been heading for the door. He turned. "Yeah, Chief?"

I said, "I want you to send a message on the radiotype to Earth Center. And get it straight, two words: *I quit.*"

He said, "O.K., Chief." He went on out and closed the door.

I sat back and closed my eyes to think. I'd done it now. Unless I ran after Reagan and told him not to send the message, it was done and over and irrevocable. Earth Center's funny that way; the board is plenty generous in some directions, but once you resign they never let you change your mind. It's practically an iron-clad rule and ninety-nine times out of a hundred it's justified on interplanetary and intragalactic projects. A man must be a hundred percent enthusiastic about his job to make a go of it, and once he's turned against it, he's lost the keen edge.

I knew the midperiod was about over, but I sat there with my eyes closed just the same. I didn't want to open them to look at the clock until I could see the clock *as* a clock and not as whatever it might be this time. I sat there and thought.

I felt a bit hurt about Reagan's casualness in accepting the message. He'd been a good friend of mine for ten years; he could at least have said he was sorry I was going to leave. Of course, there was a fair chance that he might get the promotion, but even if he was thinking about that, he could have been diplomatic about it. At least, he could have—

Oh, quit feeling sorry for yourself, I told myself. *You're through with Placet and you're through with Earth Center, and you're going back to Earth pretty soon now, as soon as they relieve you, and you can get another job there, probably teaching again.*

But darn Reagan, just the same. He'd been my student at Earth City Poly, and I'd got him this Placet job and it was a

good one for a youngster his age, assistant administrator of a planet with nearly a thousand population. For that matter, my job was a good one for a man *my* age—I'm only thirty-one myself. An excellent job, except that you couldn't put up a building that wouldn't fall down again and— *Quit crabbing,* I told myself; *you're through with it now. Back to Earth and a teaching job again. Forget it.*

I was tired. I put my head on my arms on top of the desk, and must have dozed off for a minute.

I looked up at the sound of footsteps coming through the doorway; they weren't Reagan's footsteps. The illusions were getting better now, I saw. It was—or appeared to be—a gorgeous redhead. It couldn't be, of course. There are a few women on Placet, mostly wives of technicians, but—

She said, "Don't you remember me, Mr. Rand?" It was a woman; her voice was a woman's voice, and a beautiful voice. Sounded vaguely familiar, too.

"Don't be silly," I said; "how can I recognize you at midper—" My eyes suddenly caught a glimpse of the clock past her shoulder, and it *was* a clock and not a funeral wreath or a cuckoo's nest, and I realized suddenly that everything else in the room was back to normal. And that meant midperiod was over, and I wasn't seeing things.

My eyes went back to the redhead. She must be real, I realized. And suddenly I knew her, although she'd changed, changed plenty. All changes were improvements, although Michaelina Witt had been a very pretty girl when she'd been in my Extraterrestrial Botany III class at Earth City Polytech four . . . no, five years ago.

She'd been pretty, then. Now she was beautiful. She was stunning. How had the teletalkies missed her? Or had they? What was she doing *here?* She must have just got off the *Ark,* but— I realized I was still gawking at her. I stood up so fast I almost fell across the desk.

"Of course I remember you, Miss Witt," I stammered. "Won't you sit down? How did you come here? Have they relaxed the no-visitors rule?"

She shook her head, smiling. "I'm not a visitor, Mr. Rand. Center advertised for a technician-secretary for you, and I tried

for the job and got it, subject to your approval, of course. I'm on probation for a month, that is."

"Wonderful," I said. It was a masterpiece of understatement. I started to elaborate on it: "Marvelous—"

There was the sound of someone clearing his throat. I looked around; Reagan was in the doorway. This time not as a blue skeleton or a two-headed monster. Just plain Reagan.

He said, "Answer to your radio-type just came." He crossed over and dropped it on my desk. I looked at it. "O.K. August 19th," it read. My momentary wild hope that they'd failed to accept my resignation went down among the widgie birds. They'd been as brief about it as I'd been.

August 19th—the next arrival of the *Ark*. They certainly weren't wasting any time—mine or theirs. Four days!

Reagan said, "I thought you'd want to know right away, Phil."

"Yeah," I told him. I glared at him. "Thanks." With a touch of spite—or maybe more than a touch—I thought, *well, my bucko, you don't get the job, or that message would have said so; they're sending a replacement on the next shuttle of the* Ark.

But I didn't say that; the veneer of civilization was too thick. I said, "Miss Witt, I'd like you to meet—" They looked at each other and started to laugh, and I remembered. Of course, Reagan and Michaelina had both been in my botany class, as had Michaelina's twin brother, Ichabod. Only, of course, no one ever called the redheaded twins Michaelina and Ichabod. It was Mike and Ike, once you knew them.

Reagan said, "I met Mike getting off the *Ark*. I told her how to find your office, since you weren't there to do the honors."

"Thanks," I said. "Did the reinforcing bars come?"

"Guess so. They unloaded some crates. They were in a hurry to pull out again. They've gone."

I grunted.

Reagan said, "Well, I'll check the ladings. Just came to give you the radiotype; thought you'd want the good news right away."

He went out, and I glared after him. The louse. The—

Michaelina said, "Am I to start to work right away, Mr. Rand?"

I straightened out my face and managed a smile. "Of course

not," I told her. "You'll want to look around the place, first. See the scenery and get acclimated. Want to stroll into the village for a drink?"

"Of course."

We strolled down the path toward the little cluster of buildings, all small, one-story, and square.

She said, "It's . . . it's nice. Feels like I'm walking on air, I'm so light. Exactly what is the gravity?"

"Point seven four," I said. "If you weigh . . . um-m, a hundred twenty pounds on Earth, you weigh about eighty-nine pounds here. And on you, it looks good."

She laughed. "Thank you, professor— Oh, that's right; you're not a professor now. You're now my boss, and I must call you Mr. Rand."

"Unless you're willing to make it Phil, Michaelina."

"If you'd call me Mike; I detest Michaelina, almost as much as Ike hates Ichabod."

"How is Ike?"

"Fine. Has a student-instructor job at Poly, but he doesn't like it much." She looked ahead at the village: "Why so many small buildings instead of a few bigger ones?"

"Because the average life of a structure of any kind on Placet is about three weeks. And you never know when one is going to fall down—with someone inside. It's our biggest problem. All we can do is make them small and light, except the foundations, which we make as strong as possible. Thus far, nobody has been hurt seriously in the collapse of a building, for that reason, but— Did you feel that?"

"The vibration? What was it, an earthquake?"

"No," I said. "It was a flight of birds."

"What?"

I had to laugh at the expression on her face. I said, "Placet is a crazy place. A minute ago, you said you felt as though you were walking on air. Well, in a way, you are doing just exactly that. Placet is one of the rare objects in the Universe that is composed of both ordinary and *heavy* matter. Matter with a collapsed molecular structure, so heavy you couldn't lift a pebble of it. Placet has a core of that stuff; that's why this tiny planet, which has an area about twice the size of Manhattan Is-

land, has a gravity three-quarters that of Earth. There is life—animal life, not intelligent—living on the core. There are birds, whose molecular structure is like that of the planet's core, so dense that ordinary matter is as tenuous to them as air is to us. They actually *fly* through it, as birds on Earth fly through the air. From their standpoint, we're walking on top of Placet's atmosphere."

"And the vibration of their flight under the surface makes the houses collapse?"

"Yes, and worse—they fly right through the foundations, no matter what we make them of. Any matter we can work with is just so much gas to them. They fly through iron or steel as easily as through sand or loam. I've just got a shipment of some specially tough stuff from Earth—the special alloy steel you heard me ask Reagan about—but I haven't much hope of it doing any good."

"But aren't those birds dangerous? I mean, aside from making the buildings fall down. Couldn't one get up enough momentum flying to carry it out of the ground and into the air a little way? And wouldn't it go right through anyone who happened to be there?"

"It would," I said, "but it doesn't. I mean, they never fly closer to the surface than a few feet. Some sense seems to tell them when they're nearing the top of their 'atmosphere.' Something analogous to the supersonics a bat uses. You know, of course, how a bat can fly in utter darkness and never fly into a solid object."

"Like radar, yes."

"Like radar, yes, except a bat uses sound waves instead of radio waves. And the widgie birds must use something that works on the same principle, in reverse; turns them back a few feet before they approach what to them would be the equivalent of a vacuum. Being heavy-matter, they could no more exist or fly in air than a bird could exist or fly in a vacuum."

While we were having a cocktail apiece in the village, Michaelina mentioned her brother again. She said, "Ike doesn't like teaching at all, Phil. Is there any chance at all that you could get him a job here on Placet?"

I said, "I've been badgering Earth Center for another administrative assistant. The work is increasing plenty since we've got

more of the surface under cultivation. Reagan really needs help. I'll—"

Her whole face was alight with eagerness. And I remembered. I was through. I'd resigned, and Earth Center would pay as much attention to any recommendation of mine as though I were a widgie bird. I finished weakly, "I'll . . . I'll see if I can do anything about it."

She said, "Thanks—Phil." My hand was on the table beside my glass, and for a second she put hers over it. All right, it's a hackneyed metaphor to say it felt as though a high-voltage current went through me. But it did, and it was a mental shock as well as a physical one, because I realized then and there that I was head over heels. I'd fallen harder than any of Placet's buildings ever had. The thump left me breathless. I wasn't watching Michaelina's face, but from the way she pressed her hand harder against mine for a millisecond and then jerked it away as though from a flame, she must have felt a little of that current, too.

I stood up a little shakily and suggested that we walk back to headquarters.

Because the situation was completely impossible, now. Now that Center had accepted my resignation and I was without visible or invisible means of support. In a psychotic moment, I'd cooked my own goose. I wasn't even sure I could get a teaching job. Earth Center is the most powerful organization in the Universe and has a finger in every pie. If they blacklisted me—

Walking back, I let Michaelina do most of the talking; I had some heavy thinking to do. I wanted to tell her the truth—and I didn't want to.

Between monosyllabic answers, I fought it out with myself. And, finally, lost. Or won. I'd not tell her—until just before the next coming of the *Ark*. I'd pretend everything was O.K. and normal for that long, give myself that much chance to see if Michaelina would fall for me. That much of a break I'd give myself. A chance, for four days.

And then—well, if by then she'd come to feel about me the way I did about her, I'd tell her what a fool I'd been and tell her I'd like to— No, I wouldn't let her return to Earth with me, even if she wanted to, until I saw light ahead through a foggy future. All I could tell her was that if and when I had a chance

of working my way up again to a decent job—and after all I was still only thirty-one and might be able to—

That sort of thing.

Reagan was waiting in my office, looking as mad as a wet hornet. He said, "Those saps at Earth Center shipping department gummed things again. Those crates of special steel—aren't."

"Aren't what?"

"Aren't anything. They're empty crates. Something went wrong with the crating machine and they never knew it."

"Are you sure that's what those crates were supposed to contain?"

"Sure I'm sure. Everything else on the order came, and the ladings specified the steel for those particular crates." He ran a hand through his tousled hair. It made him look more like an airedale than he usually does.

I grinned at him. "Maybe it's invisible steel."

"Invisible, weightless and intangible. Can *I* word the message to Center telling them about it?"

"Go as far as you like," I told him. "Wait here a minute, though. I'll show Mike where her quarters are and then I want to talk to you a minute."

I took Michaelina to the best available sleeping cabin of the cluster around headquarters. She thanked me again for trying to get Ike a job here, and I felt lower than a widgie bird's grave when I went back to my office.

"Yeah, Chief?" Reagan said.

"About that message to Earth," I told him. "I mean the one I sent this morning. I don't want you to say anything about it to Michaelina."

He chuckled. "Want to tell her yourself, huh? O.K., I'll keep my yap shut."

I said, a bit wryly, "Maybe I was foolish sending it."

"Huh?" he said. "I'm sure glad you did. Swell idea."

He went out, and I managed not to throw anything at him.

The next day was a Tuesday, if that matters. I remember it as the day I solved one of Placet's two major problems. An ironic time to do it, maybe.

I was dictating some notes on greenwort culture—Placet's importance to Earth is, of course, the fact that certain plants native to the place and which won't grow anywhere else yield derivatives that have become important to the pharmacopoeia. I was having heavy sledding because I was watching Michaelina take the notes; she'd insisted on starting work her second day on Placet.

And suddenly, out of a clear sky and out of a muggy mind, came an idea. I stopped dictating and rang for Reagan. He came in.

"Reagan," I said, "order five thousand ampoules of J-17 Conditioner. Tell 'em to rush it."

Chief, don't you remember? We tried the stuff. Thought it might condition us to see normally in midperiod, but it didn't affect the optic nerves. We still saw screwy. It's great for conditioning people to high or low temperatures or—"

"Or long or short waking-sleeping periods," I interrupted him. "That's what I'm talking about, Reagan. Look, revolving around two suns, Placet has such short and irregular periods of light and dark that we never took them seriously. Right?"

"Sure, but—"

"But since there's no logical Placet day and night we could use, we made ourselves slaves to a sun so far away we can't see it. We use a twenty-four hour day. But midperiod occurs every twenty hours, regularly. We can use conditioner to adapt ourselves to a *twenty*-hour day—six hours sleep, twelve awake—with everybody blissfully sleeping through the period when their eyes play tricks on them. And in a darkened sleeping room so you couldn't see anything, even if you woke up. More and shorter days per year—and nobody goes psychopathic on us. Tell me what's wrong with it."

His eyes went bleak and blank and he hit his forehead a resounding whack with the palm of his hand.

He said, "Too simple, that's what's wrong with it. So darned simple only a genius could see it. For two years I've been going slowly nuts and the answer so easy nobody could see it. I'll put the order in right away."

He started out and then turned back. "Now how do we keep the buildings up? Quick, while you're fey or whatever you are."

I laughed. I said, "Why not try that invisible steel of yours in the empty crates?"

He said, "Nuts," and closed the door.

And the next day was a Wednesday and I knocked off work and took Michaelina on a walking tour around Placet. Once around is just a nice day's hike. But with Michaelina Witt, any day's hike would be a nice day's hike. Except, of course, that I knew I had only one more full day to spend with her. The world would end on Friday.

Tomorrow the *Ark* would leave Earth, with the shipment of conditioner that would solve one of our problems—and with whomever Earth Center was sending to take my place. It would warp through space to a point a safe distance outside the Argyle I-II system and come in on rocket power from there. It would be here Friday, and I'd go back with it. But I tried not to think about that.

I pretty well managed to forget it until we got back to headquarters and Reagan met me with a grin that split his homely mug into horizontal halves. He said, "Chief, you did it."

"Sell," I said. "I did what?"

"Gave me the answer what to use for reinforcing foundations. You solved the problem."

"Yeah?" I said.

"Yeah. Didn't he, Mike?"

Michaelina looked as puzzled as I must have. She said, "He was kidding. He said to use the stuff in the empty crates, didn't he?"

Reagan grinned again. "He just thought he was kidding. That's what we're going to use from now on. Nothing. Look, chief, it's like the conditioner—so simple we never thought of it. Until you told me to use what was in the empty crates, and I got to thinking it over."

I stood thinking a moment myself, and then I did what Reagan had done the day before—hit myself a whack on the forehead with the heel of my palm.

Michaelina still looked puzzled.

"Hollow foundations," I told her. "What's the one thing widgie birds won't fly through? *Air*. We can make buildings as

big as we need them, now. For foundations, we sink double walls with a wide air space between. We can—"

I stopped, because it wasn't "we" any more. *They* could do it after I was back on Earth looking for a job.

And Thursday went and Friday came.

I was working, up till the last minute, because it was the easiest thing to do. With Reagan and Michaelina helping me, I was making out material lists for our new construction projects. First, a three-story building of about forty rooms for a headquarters building.

We were working fast, because it would be midperiod shortly, and you can't do paper work when you can't read and can write only by feel.

But my mind was on the *Ark*. I picked up the phone and called the radiotype shack to ask about it.

"Just got a call from them," said the operator. "They've warped in, but not close enough to land before midperiod. They'll land right after."

"O.K.," I said, abandoning the hope that they'd be a day late.

I got up and walked to the window. We were nearing midposition, all right. Up in the sky to the north I could see Placet coming toward us.

"Mike," I said. "Come here."

She joined me at the window and we stood there, watching. My arm was around her. I don't remember putting it there, but I didn't take it away, and she didn't move.

Behind us, Reagan cleared his throat. He said, "I'll give this much of the list to the operator. He can get it on the ether right after midperiod." He went out and shut the door behind him.

Michaelina seemed to move a little closer. We were both looking out the window at Placet rushing toward us. She said, "Beautiful, isn't it, Phil?"

"Yes," I said. But I turned, and I was looking at her face as I said it. Then—I hadn't meant to—I kissed her.

I went back, and sat down at my desk. She said, "Phil, what's the matter? You haven't got a wife and six kids hidden away somewhere, or something, have you? You were single when I had a crush on you at Earth Polytech—and I waited five years

to get over it and didn't, and finally wangled a job on Placet just to— Do I have to do the proposing?"

I groaned. I didn't look at her. I said, "Mike, I'm nuts about you. But—just before you came, I sent a two-word radiotype to Earth. It said, 'I quit.' So I've got to leave Placet on this shuttle of the *Ark*, and I doubt if I can get a teaching job, now that I've got Earth Center down on me, and—"

She said, "But Phil!" and took a step toward me.

There was a knock on the door, Reagan's knock. I was glad, for once, of the interruption. I called out for him to come in, and he opened the door.

He said, "You told Mike yet, Chief?"

I nodded, glumly.

Reagan grinned. "Good," he said; "I've been busting to tell her. It'll be swell to see Ike again."

"Huh?" I said. "Ike who?"

Reagan's grin faded. He said, "Phil, are you slipping, or something? Don't you remember giving me the answer to that Earth Center radiotype four days ago, just before Mike got here?"

I stared at him with my mouth open. I hadn't even read that radiotype, let alone answer it. Had Reagan gone psychopathic or had I? I remembered shoving it in the drawer of my desk. I jerked open the drawer and pulled it out. My hand shook a little as I read it.

> REQUEST FOR ADDITIONAL ASSISTANT GRANTED. WHOM DO YOU WANT FOR THE JOB?

I looked up at Reagan again. I said, "You're trying to tell me I sent an answer to this?"

He looked as dumfounded as I felt.

"You told me to," he said.

"What did I tell you to send?"

"Ike Witt." He stared at me. "Chief, are you feeling all right?"

I felt so all right something seemed to explode in my head. I stood up and started for Michaelina. I said, "Mike, will you marry me?" I got my arms around her, just in time, before mid-period closed down on us, so I couldn't see what she looked like,

and vice versa. But over her shoulder, I could see what must be Reagan. I said, "Get out of here, you ape," and I spoke quite literally because that's exactly what he appeared to be. A bright yellow ape.

The floor was shaking under my feet, but other things were happening to me, too, and I didn't realize what the shaking meant until the ape turned back and yelled, "A flight of birds going under us, Chief? Get out quick, before—"

But that was as far as he got before the house fell down around us and the tin roof hit my head and knocked me out. Placet is a crazy place. I like it.

Action on Azura

BY ROBERTSON OSBORNE

ON THE THIRTY-THIRD day out of Earth Central, the *Special Agent* heterodyned itself out of w-space and re-entered the normal continuum. The little 1400-ton vessel fell free toward the fifth planet of Procyon for half an hour before planetary drive was applied to slow it into an orbit.

Allan Stuart, linguist, in this maiden mission of CONTACT INCORPORATED, felt seasick again during the period of free fall. Of the six men aboard, he was the only one who hadn't spent at least one hitch in the Solar System Patrol. He was doggedly trying to steady his nerves by floating a row of dictionaries in midair when the intercom startled him. It was the voice of James Gordon, ship's captain and head of the new firm.

"All hands! We start spiraling in shortly and we should land on Azura in about five hours. Nestor, relieve White in the drive room. The rest of you come on up to Control for a final briefing."

The bony little linguist sighed, put away his books, and un-

strapped himself. Nausea made him hiccup. Detouring sadly around the intricate, day-old wreckage of what had been a beautiful cephaloid unit, he swung stiffly out of the lab. In the corridor he had to squeeze past a badly torn-up wall. Dan Rogers, one of the two planetary scouts, shut off a welding torch and coasted along with him.

"Little old piece of nickel-iron sure raised heck, didn't it, Mr. Stuart?" drawled the scout. "Come out into normal space for two minutes to get a bearing, and—WHAM!" He propelled himself along with the effortless efficiency of a man accustomed to doing without gravity.

Stuart, correcting course with some difficulty, took a moment to answer. "Hm? Oh, the meteor! Yes, indeed it did. My leg is still stiff, and of course half my equipment is just junk now. But I guess we were rather fortunate at that, since none of us was killed. All the way to Procyon . . . three point four parsecs. Dear me!" He clucked, shaking his head, and wondered again how the other five men in the crew could take these things so casually.

He drifted into the control room with Rogers and hovered near the desk. Brettner, the other scout, came in playing some outlandish sort of guitar; White, engineer and assistant astrogator, joined him in a final caterwauling chorus of "The Demon of Demos."

The ship's captain swung his chair to face them, his angular face folding into a responsive grin. Then he waved a teletape at the four men and looked more serious.

"Here's Patrol's latest summary of the situation," he announced. "Still no response from Procyon V, otherwise known as Azura. No activity in the ruined cities. No further clashes with traders, because the traders have given up. However, the natives are still taking pot-shots from the woods at any scouting parties that dare to sit down on the planet. Every attempt at contact is fiercely rejected.

"The Patrol lads, naturally, are forbidden to shoot back, at least until they find out what this is all about . . . which, of course, is where our own little expedition of specialists comes in. Incidentally, it seems fairly certain the natives know nothing of radio, so we'll be safe in using microwave to feel our way down in the dark."

He accepted a cigarette from Rogers and nodded toward a month-old report titled: Unofficial Data as of 31 October 2083; Procyon V (Azura).

"I know we have precious little to go in there with, but that's the situation. A million credits from Earth Central, if we establish friendly contact." He smoked a while, grey eyes on the ceiling. Then, as nobody spoke, he added: "The Patrol has had two more skirmishes, not far from here, with what we've called the Invader culture. None of their ships has been captured, but it's fairly certain they're the same vicious crowd we've fought near Rigel, Alpha Centauri, and so on. They seem to be heading this way again slowly. Here . . ."

He handed out half a dozen photographs of strange-looking spacecraft. "They're undoubtedly the gang that blew hell out of Azura a few years ago, before we got here, and gave the natives such a violent dislike of strangers. The Invader's weapons are somewhat inferior to ours, but he apparently has the considerable advantage of having superior position in regard to bases . . . particularly around here. The patrol simply can't stand up to a determined attack in this region unless a base is made available, preferably on Azura."

Brettner said, softly, "That's what we're really after, isn't it? Nobody's handing us a million credits just for cultural purposes."

The leader of the expedition nodded. "Yep. Once we talk to these Azurans, I think we can convince them we all have a common enemy. An enemy who seems to enjoy smashing things just for fun. I have a hunch the Azurans expect the Invaders back, too . . . that might account for their apparent determination to remain hidden." He reached for the log. "Incidentally, what's the latest on the damage situation?"

Stuart shook his head unhappily and brushed hair out of his eyes. "One cephaloid is completely ruined. It was the one I had trained to translate into Universal Speech from whatever other language would be fed into it later. I was going to teach it what Azuran I could pick up and use it as a direct interpreter. We have to use Universal Speech, you see, because cephaloids simply can't handle homonyms such as 'see' and 'sea,' or 'threw' and 'through.' However," his worried look lessened, "the multiple

analyzer is all right. And the stand-by, originally conditioned only for generalized language response, has been restrained in Universal Speech and will learn Azuran from the analyzer."

He managed a feeble smile. "After all, the natives are manlike, and we know they had a city culture much like ours, so there is a good possibility of our finding mutually intelligible symbols. And we know what their language sounds like, thanks to the trader who got away with a recording."

White spoke up. "I hope you weren't counting too much on the portable teleview, Mr. Stuart. It's a total loss. So is the long-range microphone. It's going to be tough to study their language at a distance." He looked at Gordon. "The ship is okay, chief, except for the debris we're still cutting away. All the animals are dead; I guess you knew that. And all we've salvaged from the jeep is the power unit and one repulsor. We'll have to walk where we can't use the scout-ship."

Brettner, when the captain looked at him, said quietly: "We're awful low on food. Just about enough to get us back, with three or four days to spare. Can't we eat any of this Azuran stuff?"

Gordon shook his head. "The water and air are all right, but there's no food for us down there. Good thing, in a way."

He laughed at the surprised expressions. "All Terrestrial life is based on complexes of iron, magnesium, or copper, but Azuran life seems to be built on cobalt complexes. Consequently both sides are immune to the diseases of the other. You remember the terrible plagues that hit the Terrestrial port areas in the old days, and the grim effects of our landings on Alpha Centauri III and Proxima II. But the biostat labs report that Terrestrial and Azuran tissue cultures have only a toxic effect on each other . . . no parasitic viability whatever."

He looked up at the chronometer. "About time to begin our spiral, if we're to land before daybreak in that area we picked out. Let's get some sleep. White, you'll relieve me for a couple of hours, soon as we've established our trajectory."

Stuart, on the way out, picked up the sheaf of papers summarizing what was known about Azura. He strapped into his bunk absent-mindedly and lay there trying to visualize his first non-solar planet. Many kinds of intelligent animals, the reports

agreed. Evidently a mutation leading to intelligence had occurred quite early in the diversification of the animal phyla.

One of the traders, said the report, claimed he had even learned to converse in a limited way with what he called monkey-rats. These had about the intelligence of a five-year-old human, and displayed the group cooperation common to many Azuran forms.

Too bad the trader hadn't been able to stay there longer. He had finally found some of the natives, just at the time they had found him. He was preparing to leave his ship and accept their thanks for the fine gifts he had set out, when gifts, trees, and nearby boulders began to blow up all around. He had taken off without further discussion.

Four other traders and three Patrol ships had failed. A small freighter, landing to make emergency repairs, had disappeared. The only weapon the natives had, apparently, was a disrupter of some sort, with a range of only two or three kilometers. But the wreckage of the cities showed plainly that the invaders had used weapons of the same type as Earth's, probably with a range of hundreds of kilometers. That meant—

He awoke, struggling, as if from a nightmare. The klaxon was sounding off, jarring his teeth. Gordon's slightly nasal voice came over the loudspeaker: "Landing stations, everybody. We're sitting down in fifteen minutes."

The linguist hastily unfastened his safety belts, rolled out, and scrambled into primary space gear. "Secondary equipment?" he asked Rogers, who was getting dressed beside him.

"Naw, no armor. Leave your oxygen off, too. This is a Class E planet, just like home."

Stuart scrambled down to the control room and strapped himself in beside the stern-view screen. He could hear White and Brettner in the drive room, sleepily arguing about who had mislaid the coffee jug. Such nonchalance! he thought. Trembling with excitement, he nearly dropped his camera. "I wonder how soon I can get some pictures," he muttered. "If I could only photograph our landing . . . that would really liven up the next meeting of the Philological Society!" He had already taken over a hundred pictures of the expedition, and his hobby was the subject of much ribbing from the rest of the six-man corporation.

Gordon looked over from the control board and interrupted his thoughts. "Stuart! See anything out there?"

A dial over the linguist's head indicated only a hundred meters to go. His screen showed a dark landscape, illuminated by two of the four moons. "Tree directly below," he announced. "Better move to the red side about twenty meters."

The vessel shifted slightly and eased down smoothly under Gordon's practised handling. Relays clacked; the drive hummed softly.

Suddenly a rough branch scraped along the side, making metallic echoes in the double walls. Seconds later the ship settled with a gritty crunching. A few kicks of the drive leveled it off.

II

There was profound silence for a moment after the drive died away. Someone yelled "Wahoo!" Then Rogers came clattering down the ladder. He beckoned to Stuart, who was already climbing out of the seat eagerly.

"Time for the landing party," said the scout. He eyed the camera. "Remember now, play your cards close to your chest. Don't go skittering off to take pictures. First we patrol once around the ship, then we get the camouflage nets pegged down, right away. Then we sit tight 'til we've had a good look around in daylight."

As they approached the arms locker, they found Nestor drawing out three blast rifles. He held out two of them. "Your weapons, gentlemen," said the chubby engineer, bowing. "I'm guarding the airlock while you're out there. And next time we cut cards for this little privilege, I'm going to shuffle the deck myself. Six years in the Patrol before this trip, and I've been first-to-land only once in my life!"

The linguist smiled, feeling his taut nerves relax a bit. He pushed the Outside Test button beside the lock at the end of the corridor. A green light flashed. "Air's already been okayed," Nestor told him.

Stuart pushed another button. The inner door withdrew from its permoid gasket and swung aside. The three men clanked into the echoing airlock chamber, where a touch on a third stud slid shut the inner door and opened the outer.

The night lay mysterious before them, full of exotic odors, unfamiliar sounds, and double shadows. The slender linguist clambered like an eager monkey down the fin rungs and stood inhaling deeply.

He was adjusting his camera when Rogers whispered in his ear, "Come on, let's make a tour around the clearing." Into his microphone, the scout reported: "Beginning our circuit, chief. Circling counterclockwise."

Rifles unslung, the two began walking cautiously. They had gone about halfway and Stuart was studying the two moons, when his feet were abruptly yanked out from under him and he fell to the ground. The patch of pinkish grass under him seemed to ripple, rolling him over and over helplessly until he was brought up against a rounded hummock. Before he could struggle to his feet, he came floundering back again to be dumped at the edge of the patch. Sitting up dazedly, he found Rogers looking for something to shoot at.

"What the devil happened?" whispered the scout. Gordon's voice came over the earphones: "What's going on down there? All I can hear up here in the turret is grunts and whispers, but what I see sure looks screwy!"

Stuart got up lamely, rubbing his sore leg. "I was sniffed at and rejected, in a manner of speaking," he answered. "Watch." He drew his hand gun, which happened to be the most convenient thing and tossed it on the animated grass before the flabbergasted scout could stop him. Immediately it was whisked away to the central hump, brushed with feelers, and sent tumbling back to his feet. "A most intriguing experience," murmured the linguist, studying the pink grass with his head cocked to one side. "I shall have to try it again when there's more time." He picked up the gun and limped away on patrol.

Rogers, with an expression of surprised scorn and amusement on his handsome face, explained briefly to Gordon what had happened. As he caught up with Stuart, he glanced toward the nose of the *Special Agent*. "See anything yet, chief?"

In the nose turret, two gun barrels continued their sweep. "Nope," came back Gordon's voice. "There's a broad prairie just beyond the trees on the 'East' side of this clearing, if you remember. Plain as day in this double moonlight. Almost looks like my home state, except for a few hills of that phosphorescent coral

rock. Maybe—HEY! Some kind of critters running toward the hills! About five kilometers away. Flashes . . ." He broke off, as if absorbed in watching.

The two men on the ground slowly continued their patrol, listening intently. In about fifteen seconds, above the faint rustling of the leaves in the pre-dawn breeze, they heard far-off snarling roars, mingled with crackling explosions. Almost total silence followed, as if the whole forest were listening. "All quiet," Gordon reported after a while. "Must have been what the traders called hell-cats, attacking some native settlement. Looks like we made a fair guess about where to find some natives."

"We also know where they keep some of their popguns," added Rogers sarcastically.

Gordon's voice chuckled. "Patrol says the only known weapon has an apparent range of two or three kilometers at most, and probably is not portable."

The scout looked skeptical. "Patrol says," he repeated sourly. "Apparently, probably, maybe. I notice our old buddies haven't cared to get within a hundred kilometers of said popgun."

When the tour around the ship had been completed, Rogers looked up. "Okay, chief. Ready for the nets."

Far up in the nose appeared a black hole. White climbed out and spread a conical camouflage net over the nose. Then he ducked back into the ship. "Here comes the first strip," said Gordon. "I hope this gimmick works!" A slot opened behind the skirt of the conical net, and a sheet of neolon camouflage unrolled downward. Rogers seized the bundle of stakes at its lower end and had the strip pegged down in a few seconds, with willing but ineffectual help from the inexperienced Stuart.

"All right so far," the scout reported. Another strip came down. Stuart grabbed the stakes, then put them down to rearrange the rifle slung across his back. Suddenly there was a blur of movement and the stakes disappeared around a fin.

Rogers carrying the rubber mallet, walked up and nudged him. "Come on! Dawn's about to break, laddie. What are you staring at?" His own eyes widened as the bundle of stakes came back and dropped near his feet. He whipped out a flashlight and revealed a pair of "monkey-rats" scurrying away. He laughed

and shook his head. "Things around here have a cockeyed way of putting back what they don't want. I suppose these fellers were after metal, like Venus blacksmith lizards."

The two men resumed working, and at length the entire ship was tented. Not long after they had finished, the light was strong enough to show the beady-eyed little monkey-rats sitting nearby, watching curiously. The fearless creatures, as large as cocker spaniels, were an indeterminate red-gray in color, four-legged, and had two six-fingered tentacles where Stuart expected a muzzle. Bright black eyes looked out from under bony ridges. The monkey-rats carried short spears, and seemed to have pouches slung on their backs.

"Too bad we can't feed 'em," murmured the scout. "I bet we can make friends with them. We better explore a little more, though, first." Stuart strolled with him to where a narrow neck of turf led from the clearing out to the prairie. A brook followed this little alley into the woods.

Rogers pointed to the near bank, where a miniature scaffolding of bright orange and blue matchsticks stood a few centimeters high. "Construction plant," said the linguist, remembering a trader's description. Nearby were three mossbacks, looking like turtles with tufts of green on their backs. "Possibly symbiotic," Stuart thought to himself. The creatures dabbled their forelegs in the water and blinked sleepily.

The monkey-rats, following the men, apparently discovered the mossbacks just then; there was a sudden squirrel-like chittering sound as one of them pointed with a tentacle. Immediately two small spears flashed through the early morning light and chunked into one of the mossbacks. The creature squawked once and fell over; its companions looked at it stupidly for a moment, then dove clumsily into the brook. The monkey-rats dashed over to their prey, seized it with their tentacles, and began to hustle it toward the nearby trees.

Without warning, a sky-colored creature like a hawk swooped over them and dropped a rock. One of the monkey-rats was hit in the leg and fell sprawling. The other whistled with rage and hurled an ineffectual spear. The hawk came back a moment later and began to bomb them with more rocks. The injured one

was being half-carried by its companion, and both were screaming angrily.

Rogers scowled at the battle. "Looks like he doesn't want to leave his friend," he growled. Suddenly he whipped out a hunting-knife, aimed for an imperceptible split second, and let fly. The hawk was slashed open down the belly from head to tail. It flopped heavily onto the patch of pink grass, snapping with vicious grey teeth in dying hatred. The uninjured monkey-rat ran to retrieve the knife.

The two men went to look at the wounded one and found it dragging a bleeding hind leg. It seemed especially shocking to Stuart, somehow, that the blood was red, although of a more brilliant shade than that of Terrestrial mammals. The creature turned to face the men, waving a spear defensively and shrilling for help. Its companion came charging up with the knife and two spears. The two forms of life eyed each other for a moment.

"Here's your opportunity to make friends with them," urged Gordon over the radio. "They seem accustomed to man-like beings. Maybe they can be of some use to us. Worth trying, anyway."

The scout squatted and made soothing sounds. Stuart backed away a few steps, so as to represent less of a threat, and began taking pictures as unobtrusively as possible.

Rogers studied the situation in a moment, then extended his empty hands, palms up, in response to a whispered suggestion from the semanticist. Both monkey-rats cocked their heads and watched him sharply, murmuring to each other.

Moving slowly as Stuart directed, the scout tore a strip of bandage from his first-aid packet and allowed it to be examined. He reached for one of the wooden spears, needle-tipped with something like obsidian, but it was withdrawn hastily. He broke off a small branch from a nearby bush and tried to splint the broken leg. The creature squealed and snapped at him, but neither monkey-rat threatened him with a weapon. They seemed more curious than afraid.

Nonplussed for a moment, the Earthman whistled softly, thinking. "Give them your other knife," suggested Stuart. The scout drew it out and dropped it hastily before a spear could be launched at him.

Two knives! The creatures examined them with obvious

pleasure, testing the blades and inspecting them closely. Again Rogers reached out; this time his touch was tolerated. "Warm-blooded," he said quietly into his microphone. "Feels like two bones in the upper leg." He succeeded in straightening the limb and tying it up. Then he pantomimed carrying the victim and pointed into the woods. The other monkey-rat pushed the injured one toward him and made tentacle motions which evidently meant "yes." He picked up the one with the broken leg, carried it a short distance into the woods, and set it down. The other followed, bristling with knives and spears. Stuart came behind at a discreet distance, observing carefully and making notes. Occasionally he snapped a picture.

The scout poured some water into the palm of his hand and offered it. The injured animal shot out a tubular orange tongue and sucked up the water. The two men were trying to establish further communication when suddenly their earphones crackled.

"You men outside! Stand by the neck of the clearing! There's been some shooting over near those coral rocks, and here comes a native hell-for-leather with three hell-cats after him. Heading for the clearing, I think. Try to catch him . . . he seems to be unarmed. We'll get out and hold off the hell-cats from up here!"

III

Rogers was belly-down in the grass at one side of the entrance before Gordon finished talking. Stuart dashed after him, noticing absently as he passed the pink grass that it was churning and enveloping the carcass of the dead hawk. He reached the edge of the clearing and took up a position across the brook from Rogers. He could see nothing but dust through the grass and heavy scrub. The canteen gouged into his flank, and his holster seemed caught in a root. He struggled to get the blast-rifle unslung from his back, wishing for the twentieth time that he had had at least a little experience at this sort of thing. Just one hitch in the Patrol, for instance . . .

The radio broke in on his whispered swearing. "You might have to do some shooting down there. These machine-guns may not stop all the hell-cats dead in their tracks, but I don't want

to use anything bigger . . . no use letting the neighborhood know what we've got."

A few seconds later the native came pounding desperately through the alley into the clearing. "Hold him!" yelled the scout. Stuart sprang to his feet with a leveled rifle and confronted the astounded humanoid, who collided with a tree and stopped. Nestor came dodging out through the nets to cover the prisoner with another gun. The brilliant red manlike creature, obviously understanding the weapons, still tried to edge away from the squalling roars of the hell-cats not far behind on the prairie.

The twin sixty-millimeter guns in the nose burst out with a clatter. The noise of the exploding projectiles was deafening. Clumps of dirt and scrub flew high into the air. Then Nestor's blast-rifle roared once, sharply.

Abruptly there was silence. The Azuran had obviously discovered the ship behind the camouflage; he stared at it, blinked, and stared again, as though in disbelief. Stuart began taking pictures of him. "No more cats," came Gordon's voice. "They were bunched up and Nestor got 'em all. Ah, I notice our new friend has seen through the camouflage net."

The native's reaction was sudden, unexpected. He shuddered and slumped to the ground, a picture of dejection. His tentacles were limp. Nothing would induce him to communicate At length Stuart offered water; the native suddenly arose, as if in a hopeless rage, knocked the canteen aside, and kicked the linguist's injured leg. Then the red being sank to the ground again.

"Damn!" growled Stuart through clenched teeth. He rubbed his leg. "I suppose he thinks we're the Invaders, coming back to ravage his people again. Either he never saw the Invaders himself, or we happen to resemble them. Or maybe the terror of the invasion was so great that a serious semantic confusion exists, labelling all strangers as Bad. Well, at any rate, I'll have to go through some semantic analysis to establish any rapport at all." Meditating on the problem, he sent Nestor back to the ship for drawing materials, and bent over to retrieve the canteen. The native immediately knocked him flat and fled into the woods.

Rogers started after the Azuran, unslinging his gun, but Gordon spoke up from the airlock, where he had been about to

climb down to the ground. "Dan! Get out of those woods, you half-wit! Let him go; you can't possibly catch him. Anyway, we may be able to see where he goes, if he breaks out into open country again. White, will you keep an eye on the edge of the woods from up there? Be ready to man the 'scope. I'll be right up."

Nestor sat down beside the linguist a few minutes later and held out a cup of fragrant coffee. "Here, Mr. Stuart. I figured you guys could use breakfast better than drawing materials right now. Feel okay?"

Stuart sipped and nodded gratefully. "Mmm. Yes, fine, thanks."

The plump little flight engineer handed him a sandwich. "You're due for relief about now anyway. The boss and I will be out here, and White and Brettner inside. You and Rogers can sleep a while."

The linguist leaned back against a tree and lit a cigarette. "Has the native showed up again?" he asked his microphone.

White answered. "Yeah. He high-tailed it across the prairie and disappeared among the coral rocks. Chief says for you to come in, Stuart; he wants to know what you found out."

Stuart picked up his rifle, canteen, camera, and cup. He wondered vaguely, as he trudged wearily over to the ship, how he had gotten so tired. Then he realized that, like the others, he had gotten only five hours' sleep in the past two nights. Procyon was yellow-white and hot on his back, even through the netting, as he clambered up the fin rungs. He felt sleepy.

In the captain's crowded little cabin he dropped into a chair and yawned. Gordon stretched, scratching lazily, and grinned at him. "Bored, on your first day ashore?"

The linguist smiled ruefully. "Tired, yes, but hardly bored. I don't mind admitting the first few hours have been rather disappointing. We had a native right here, I stood face to face with him, and we even saved his life . . . well, no use yowling about it. I presume he's gone off to warn the others now. Our element of surprise, as you fellows say, is lost." He brushed the hair out of his eyes. "What shall we do about it, Gordon?"

The leader drummed on the desk a while. "I dunno. This sort of situation was never covered in Patrol courses. Maybe the

General Staff studies this stuff, but I was just a line officer, like the other guys. If you remember, we figured we'd sort of make up our operations plan as we went along. You probably know as much about it as we do, from all your reading. Nothing predictable about any of this; we just have to react to whatever develops. What would you suggest?"

"Um. Well, I've a half-formed scheme for—er, seizing the bull by the horns. The natives are certain to react immediately, either by attacking us or by disappearing again. I feel that we should assume the initiative as soon as possible, without waiting for them to maneuver one of their weapons within range of us."

"How do we assume the initiative?"

"Yes, exactly—how?" The semanticist shook his head. "I'll have to sleep on it at least a little while, Gordon. Right now I feel unable to think. But somehow we have to convey to the Azurans the knowledge that we are friendly. "We'll have to find some way of representing the idea to them."

"Drop leaflets," suggested Gordon, wryly. "Or put up one of those billboards they used to have all over a hundred years ago. Everybody in the universe must have become accustomed to some kind of advertising by now!" He laughed heartily. "Okay, Stuart. Go fall into your bunk. Let's hope you wake up with a good idea!"

The thoughtful little language expert got up to leave. "Billboard. Billboard . . . there may be something in that, even if you were joking."

His musings were broken off by the alarm bell and the intercom's squawk. "All hands! Battle stations! Chief, three natives just popped up from a hole in the ground about two hundred meters away. Strong radar indication."

As Stuart ran down to his post at the airlock, he heard Gordon's calm voice from the intercom. "All right, Brettner. Keep them covered, but don't fire."

At the lock, the linguist remembered to punch the personnel buttons as the men climbed in, out of breath and swearing. He pushed the stud beside his own name last and shut the lock as the "All Aboard" shone green.

Gordon spoke again, apparently to someone in the control room with him. "They've evidently lugged a disrupter or some-

thing along a tunnel. Seem to have a couple of big beasts of burden carrying a gadget. . . . looks like one of those old pack howitzers. Let's wait 'til they get it nearly assembled, so we can get an idea of——hup! Let's GO!"

Stuart had forgotten to buckle his safety straps. He just had time to grab a stanchion when the violent acceleration tripled his weight and nearly threw him to the floor. No more than a heartbeat later, there was a muffled boom from outside the ship, and a section of blazing tree went rocketing past the glassite window.

After a few seconds' acceleration he felt the ship take on a horizontal component. The pressure eased off. He got up from his hands and knees and adjusted the periscope controls until he got a view of the ground. There was a group of burning trees several kilometers below, sliding rapidly to the east. Several times the scenery shifted rapidly as the ship zigzagged.

As he swung the 'scope, Stuart was thunderstruck to discover a hole blasted in the edge of a fin, not four meters away from where he stood. Shreds of charred camouflage netting fluttered in tangled strings.

On the intercom, White's voice broke the tense silence. "Gimme that again, slowly, somebody. What happened, anyway?"

Gordon answered. "That must have been a tunnel they came out of, right at the edge of the woods. Maybe they use it to get home if hell-cats happen to catch them out on the prairie. That fellow we caught today was probably heading for it, hoping to lose the cats in the woods first."

After a moment, he added, "Anyway, they showed up with a heavy weapon and nearly got us. Patrol guessed wrong about its portability, and I guessed wrong about its operation."

Stuart commented, "Good thing someone happened to be on duty in the turret, and we were able to take off on such short notice."

"*Happened!*" barked the captain. "Mr. Stuart, that's the first rule of *any* ship landing on territory listed as 'unsafe,' and it 'happens' to be Rules Seven through Sixteen of the Patrol Regulations!"

Brettner eased the linguist's embarrassment by changing the

subject a little. "Did you all see the colossal helpers they had carrying that weapon? Must be what the traders called heffalumps . . . I thought the pictures were fakes. Those critters practically did the shooting themselves, and they were talking to the natives! This is some planet——everybody talks to everybody except us!"

Gordon spoke again. "White, I want you to rig up a mosaic alarm with controls in the turret, Number One Lock, and control room. . . . before tonight, if possible. Jury-rig it, just so it goes off when anything larger than a mossback moves near the ship. Get as much range as you can."

"That means dismantling the space-probe and comparator, boss. Not enough spare checkerboards to scan three hundred and sixty degrees with a decent vertical coverage. And for stereo-perception, so the thing can discriminate between a nearby leaf and a far-away heffalump——"

"All right, do the best you can. Can you hook it up with an infra-red snooper for night work? I don't believe the natives can see infra-red. . . . I hope. Procyon's a little farther toward the blue than Sol is."

"I'll see what I can do. Can't get very good resolution with the electro-optical stuff we have for infra-red. We had to weed out four tons, you know, and the Hollmann scanners are three and a half parsecs back, in our shop."

Stuart noticed that the ship's course had steadied. A look through the 'scope showed the recently abandoned clearing now swinging under the stern again, far below. He was about to take a picture of it when Gordon called him.

"Stuart, will you go to the drive room and give Nestor a hand? He's scanning the area with micro-wave, and I want you to use the stern-view telescope. Those characters may have decided to go back to their base without using the tunnel; maybe we can keep out of sight and get a good fix on where they hole up."

The linguist retracted the periscope and saw to it that the guard plates slid over the outer lens. Then he dodged through the radiation trap into the darkened drive room. He was wondering how to strap himself into the seat without taking off all his photographic gear, when Nestor, peering into the radar screen, snapped his fingers.

"Got a blip, Gordon," said the engineer with suppressed excitement. "One metallic object about the size of a foot-locker, maybe a little bigger. Boy, do those rocks show up! Must be nearly all metal."

In a moment the leader answered. "I believe I see something. Awkward angle, though, on this turret telescope. How about you, Stuart?"

"No, frankly, I——"

Gordon cut in. "What magnification are you using?"

"Let me see . . . all I can get—sixty-four diameters."

"Too much; cut it down to twelve. Center your 'scope. Now look at the cross-hair grids. Find the lower part of F-7; you should see something around there."

"More likely F-6 from here," put in Nestor. "That's where my indication is."

"Oh, yes! I see them. Three natives and two. . . . My goodness, those heffalumps *are* big! Almost as big as elephants!"

Gordon answered, "Yes, and apparently considerably more useful. Well, keep a sharp watch on the group. Let me know where they go, and be sure you mark the spot on a large-scale sketch or photo. I've got to send off a report to Patrol; we're keeping them posted on every development."

"Like a bomb-defusing squad," said Nestor hollowly. "The next crew will take up where we left off, see?"

The ship, swinging slowly ahead of the little raiding party, came to a stop about six kilometers above and slightly beyond the coral rocks.

White spoke over the intercom. "I don't think they'll see us here. We're in the sun. But keep yourselves strapped in, gang; we're going to move in a hurry if they point that thing at us. You guys below let me know if they do anything suspicious. I can't see too much on the control room screens."

In the drive room, the power hummed softly. Relays clicked occasionally as the minutes passed. The creatures on the ground entered a faint trail winding among the hills of bright coral rock. Now and then one of the heffalumps stopped and adjusted the load on his back, using the middle two of his six limbs. Nestor nudged the language expert's arm.

"Looks like they're getting close to home. Better get set to take some pictures."

Stuart nodded, having already picked up a plate magazine, and loaded the camera box on the side of the telescope. He adjusted the controls from time to time with nervous delicacy, occasionally tapping the shutter button. Suddenly he switched to higher magnification, exclaiming, "There they go! Into that cave!" He took three pictures in rapid succession at different magnifications. He also banged his nose hard on the eyepiece, and wondered some hours later how it came to be so tender.

There was a clatter of feet on the steel ladder. Gordon came running over to him, an unfinished report in one hand and a half-eaten hamburger in the other. "Lessee," he demanded.

The linguist showed him. Only the cave mouth could be seen now, black in the hot sunlight. It was halfway up a hill of dense coral, and was protected from the front by another hill.

The chief took a bite of hamburger and grinned at Stuart. "This is a bit of luck," he said happily through the mouthful. "We wouldn't have found that hideout in ten years if they hadn't taken a potshot at us!"

Nestor exhaled cigarette smoke, looking cynical. "Swell. What do we do now? Wave a hankie at them?"

Gordon's expression became less cheerful. "We don't know yet. Things have moved a little fast. But whatever we do, we'll have to get it done fast. You guys might as well know now what came in a little while ago on the radio." He drew a deep breath. "An Invader base has been discovered——within striking distance of this area. It's a jolt, of course, but at least we've finally discovered a base of theirs. Earth Central says either we close this deal in four days or the planet will have to be taken over the hard way."

Stuart shook his head sadly, thinking of the already-ruined cities below. "Our little firm had better live up to its name," he said.

Gordon nodded. "A task force is already on the way."

Brettner had come cat-footed down the ladder. "There's one way to hustle things up," he growled, patting his hip holster. "I wish you'd let me blister their stern-plates a little. Little old Frontier Lawyer here would teach 'em some manners right now!"

Stuart repressed a shudder.

The captain strode over and confronted the scout with a frown. "That's what we're here to avoid, Mr. Brettner, and you know it. Our weapons are purely for defense, and there'd be hell raised if we harmed any natives. If we got out of here alive, we'd lose our million credits and all our expenses, as well as being tried for unauthorized warlike acts." He sounded hoarse with fatigue and irritation. "Get over any belligerent ideas you may have. That goes for all of you—at least on this trip."

He looked sternly at the group a moment, then nodded toward the ladder. "Let's go have a conference. Nestor, will you stay here and keep a sharp eye on that hideout?"

The chubby engineer leaned back in the seat, swung the eyepiece over into a comfortable position, and sighed. "Yeah, all right. Someody better bring me some food before long, though. I'm dying."

IV

Up in the "conference room," the men gathered about Gordon at the controls. He checked the autopilot and sat drumming his fingers on the desk. Finally he looked squarely at the language expert. "Mr. Stuart. . . . it seems fairly obvious now that the outcome of this entire expedition depends almost solely on you. You're the one who knows how to convey ideas, probably as well as any human being alive, according to the information we got before we asked you to join us. All the rest of us can do is run this ship and make like space-fighters."

He raised a hand at Stuart's beginning protest, and went on. "Let me finish my little speech. You're trained for this sort of thing, even if you do lack non-Terrestrial experience. You figured out the elements of the Alpha Centauri II and IV languages from nothing but sound movies, a few years back. Now, what I'm getting at is this: you tell us what has to be done, and we'll try to figure out a way to do it. We're starting from scratch, of course; that meteor, by a million-to-one chance, ruined all our previous plans."

Stuart pulled at his ear a moment. "Well, all those plans were designed to give me at least the minimum amount of observation I'd need to prepare a friendly message. Now, while my stock of Azuran symbols is still zero, we've gained some infor-

mation. It's too bad we lost the horses and bloodhounds, for the combination can't be beaten when it's a matter of finding someone in hiding. However, we do know where at least three natives are. And personally, I don't regret it a bit that I'll not make use of those hasty riding lessons."

He paused, and White spoke up. "Even if we do know where some of them are, I don't see how we can use Plan One. How can we set up hidden microphones and telicons, when the ruddy natives live in a cave?"

Brettner, looking disgusted, added, "Even when we catch one of the critters by dumb luck, he won't talk. Trained not to. And that tears up the second plan."

The captain nodded. "And our third scheme . . . to watch and wait, using long-range equipment, and play for the breaks. That sure seemed like a flexible plan. But of course it was blown all over the Milky Way along with our food. Anyway, the news from Patrol makes speed essential."

There was glum silence for a while. Then Rogers offered, "There must be some way we can use our knowledge of where at least three of them are hiding—even if the place is defended with a natural barricade and a souped-up pack howitzer."

After a thoughtful moment, the little language expert cleared his throat hesitantly. "Er—I should like to suggest something . . ." They all looked at him, making him feel rather self-conscious, but he went on. "You said something about an old-fashioned billboard, Gordon, that got me thinking. I have a good many pictures of the expedition and our activities—" he reddened, remembering the frequent ribbings about his photographic activity "—and I can make a few sketches for the rest of it. You see, I was thinking we could sneak down there at night and leave a series of pictures where the natives would find them in the morning."

He was talking rapidly now, full of steam, pacing back and forth. "The pictures would show that we are *not* the Invaders, that we are friendly—I took pictures of Rogers helping the monkey-rats, for instance—and then we could have a couple of pictures of Terrestrials and Azurans exchanging gifts." He stopped, embarrassed, wondering whether his scheme sounded naive to these practical men. "It—it's been tried before with considerable success . . . in some cases."

Gordon thought it over a while, rubbing the stubble on his cheeks. "Might work," he mused aloud. "What about setting up an automatic-sequence gimmick of some kind, controlled from here while we watch their reaction with a telescope? We could turn the pages, see? . . . or should we just tack up a string of pictures along the path?"

Rogers sat forward. "Machine might be better, if we can rig it up soon enough. Separate pictures might get blown away or something, for all we know, or some kind of critter might destroy 'em."

Stuart stopped pacing and squinted at the ceiling. "Yes, I like the machine. We could include a little pick-up unit so I could record and analyze their comments, knowing just what they were looking at. That would really help a lot." He snapped his fingers, struck with inspiration. "What about ending the little show with a real surprise? A gift that would really demonstrate our good intentions?"

What did he consider a suitable gift?

"A blast rifle!" he answered boldly.

"What the devil!" exclaimed Gordon. The others indicated various degrees of consternation. They stared at Stuart as if he had suggested turning pirate. But he showed a firmness that was new to them—and to himself.

"Nothing else will do the trick as simply and surely," he insisted. "In the first place, their most desperate need, as they see it right now, is probably an efficient but simple weapon of some sort, capable of being enlarged into a heavy defensive piece of great range. I understand our blast rifle is such a weapon. I believe they live in absolute terror of another attack, and they apparently have little or no technology left with which to prepare for such an attack. Hence their going underground."

He paused to let the point sink in. "And in the second place, it seems reasonable to believe they would understand our good intentions from such a gift. Surely they will see that no one planning an aggressive move is going to arm his intended victims first! Their behavior certainly indicates that they are accustomed to direct action, rather than to Machiavellian subtleties of plot and counter-plot."

Nestor stuck out a skeptical lower lip. "How will they know

we're making a gesture that means anything? I mean, they still might figure the gun is just a little toy in our league, and that we're not running any risk at all by giving it to them."

Stuart hesitated before replying. He nodded in appreciation of intelligent analysis. "That's a difficult point which will have to be worked out later . . . possibly on the spot. First of all, we shall have to establish contact. It will also be necessary to show them we have a defensive screen, too—which they would doubtless be overjoyed to have—and that we are willing to turn it off and trust them. It will be a delicate and intriguing problem in psycho-logic."

Rogers shook his head and laughed a little. "It sounds as cockeyed as 'Uncle Willie' Ulo's stories about Sirius V. But, so help me, I believe it'd work!" All at once his expression changed, and he looked hard at the expert. "One thing, though, mister. I know I wouldn't care for the job! Who's going to be the guinea-pig and go down for the first little chat with them?"

Stuart smiled thinly. "Who will bell the cat, eh? Another fair question. Well, I shall set up the apparatus, and of course I intend to try out its effect, too. I shall confront the natives myself after they have received our picture message and the gun."

The others protested, but there was a stubborn set to his jaw. "After all," he explained later to Gordon, "while you fellows have been acquiring glamor, so to speak, I've been leading a rather dull life. I intend to have at least one little fling at dangerous living. Besides, I'm the only really expendable man in the crew. . . . the rest of you are necessary to the operation of the *Special Agent*. And anyway, I'm only here because I know something about communicating ideas. This is part of my job, if anything is."

The rest of the day and a major part of the night, except for brief catnaps, were spent in fabricating the device which Gordon designed to Stuart's specifications. Even White's work on the mosaic alarm was suspended. The linguist planned, sketched, and worked with his photographs for ten hours before allowing himself to rest. He had done all he could with his part of the project, and decided to lend a hand in the shop . . . but first he would massage the leg which had been so painfully gouged when the meteor struck. He sat down to ease the ache, and promptly fell asleep.

When they woke him three hours later, his machine was ready. In his meticulous way, he had made careful notes of the picture sequence, and other five members of Contact, Incorporated had arranged everything as indicated. He examined the device sleepily, rubbing the back of his neck and yawning. "Looks okay," he grunted. "Controls tested? Good. Nice job, very nice." Still blinking, he helped carry the makeshift metal-and-plastic assembly into the scout ship in Number Three Lock.

Brettner climbed in and sat down next to him at the controls. "Sort of a lucky thing for us this old planet has four moons," grinned the scout. "All four were in the sky until a few minutes ago. Too much light for us to pussyfoot around on the surface, so you and I had a chance for a nap. Now there's only two . . . just enough for us to work by. We'll have to hustle though."

A few minutes later, under Brettner's skillful handling, the little ship settled to a quick, silent landing about two kilometers from the cave. The scout got out and began unloading the apparatus. Stuart, now fully alert, held a low-voiced radio conversation with Gordon. "Still no sign of any activity?"

The captain's voice was blurred with fatigue. "No, nothing, except some infra-red indications of large animals to the south. We'll keep you informed. For Pete's sake, be careful."

The linguist, nervous as he was, chuckled. "Good of you to remind us." He put on his bone-conduction earpiece, throat-mike, and all the other gear designed for planets with breathable atmospheres. Clambering out of the little vessel, he joined Brettner. The two men helped each other with the slings of their backpacks, locked up the ship, and started off.

Stuart had to run occasionally to keep up with the other's easy, practised stride. The extra rifle and his half of the apparatus jounced and dug into his back. Occasionally he heard Brettner whisper into his mike, asking for directions. The compass was useless near the iron-bearing coral rocks.

Like the scout, Stuart had studied the route in advance, but traversing it in the dark was a grimly different matter. The double shadows of the two moons were confusing and made him stumble. Once a sensitive bush of some kind shuddered and drew back with a moan when he grasped it for support. He shuddered and brushed sweat off his face and sleeve. What did anyone know, after all, about the number of dangerous organisms

this planet harbored? Carnivorous plants, for instance, or even animals, might not have sense enough to avoid iron complexes such as human blood. . . .

Something soft beneath his foot shrieked horribly in the night and slid away. He went down on one knee, but waved when Brettner turned as if to help him up. "I'm letting this get me," he thought angrily. He got up and jogged along again, trying to imitate the scout's powerful stride.

Abruptly they came upon the trail. They had just started along it when a warning came from the *Special Agent*. "One of those animals on the prairie must have picked up your scent. Probably a hell-cat. Sloping off toward the trail now. Ye gods! . . . . he must be doing sixty kilometers! Now he's slowing . . . . you should see him about a hundred meters ahead in a few seconds. He's sneaking onto the trail."

The linguist's heart thudded as he crouched in shadow with the scout. "What do we do, Brettner?" he whispered.

"Have to use this," the other replied, hauling out a wide-barrelled, clumsy looking Texas Slugger. "Picked up this sweetheart on Callisto, but I only got three shells." He aimed down the path through an offset sight. "Don't get behind this, laddie."

In the moonlight farther up the trail, a sinuous beast like a huge armor-plated cat glided out from the brush. It opened jaws a meter wide, showing double rows of dull green phosphorescent teeth, and began to lope toward the men. The scout fired when it was less than sixty meters away, and a rocket-propelled projectile hissed out toward it. A few meters out, the 2000-G drive of the projectile cut in, and the missile crashed into the hell-cat with terrible impact.

The creature was a hollow mass of pulp almost instantaneously. The only sounds had been the brief hiss of the rocket, the even shorter crackling of the accelerated drive, and an earth-shuddering crunch when the device had struck a wall of rock beyond the beast. Apparently these had not alarmed the other nocturnal creatures about, for the various animal cries went on as before.

"Come on," said the scout, resuming the trail. "We got to hurry." Stuart followed, wrinkling his nose at the horrible

stench of the dead animal. Nearby, a brightly glowing hole in the rock showed where the missile had buried itself and disintegrated.

By the time the men reached their objective, a little trailside clearing just out of sight from the cave, the language expert was thoroughly winded. It was some satisfaction to him to note that the scout was sweating heavily too. Brettner unshouldered his equipment, took a sip of water from his canteen, and moved up the path a few meters to keep watch on the cave. The opening glowed less brightly than the luminescent rock around it.

Stuart worked as rapidly as he could in the moonlight and ghostly shine of the hill. His footing was uncertain on the irregular coral. Twice he stopped and crouched, rifle ready, as his sensitive ears detected a change in the pattern of night sounds. A wild assortment of odors drifted with the faint breeze; once a friendly little creature smelling like fragrant Scotch offered him a pebble and giggled. In his anxious haste, the linguist dropped two bolts into the twisted crevices of the rock, and he began to feel he was having a nightmare.

When the assembly was nearly completed, Nestor warned over the radio, "Better step on it, guys. We can see daylight coming from up here. You have about half an hour to get away." By the time the device was operating satisfactorily, there was enough light to see clearly. The two men on the ground picked up the tools and canteens hastily and hurried back along the trail.

They had gone about halfway when a stone the size of a baseball landed with a vicious clank on the scout's headgear. He swore softly and sagged against a bush, fighting dizzily to stay on his feet. Stuart snatched up a smaller rock and hurled it at the attacking stone-hawk, which was banking into another dive in the dim morning light. The stone smashed one wing. The creature spun and flopped through the air, screaming and gobbling, until it crashed into a tree and fell dead.

Brettner shook his head and grinned ruefully. "Good thing I got a wooden head. . . . Yeah, I'm okay." He examined the dent in his helmet, and spit contemptuously at the dead hawk. "That's some arm you've got, mister," he added respectfully.

Stuart examined his arm, pleased. "Used to pitch on the varsity," he explained. "Did you hear the mouthings of that vicious

bird? He was swearing at us, I'm sure!" He resumed the march, wondering absently whether all these Azuran creatures spoke basically the same language. From what little he had been able to observe, it seemed likely.

It was almost full daylight when they reached their scout ship. "Come on up," Nestor told them. "No sign of activity around the cave yet, but you better keep between it and the sun just in case somebody peeks." Brettner took off immediately.

Ten minutes later Stuart was seated at his apparatus, stuffing breakfast food into his mouth and feeling very tired. "Been making this stuff for a hundred and fifty years," he grumbled to himself, chewing doggedly, "and it's still lousy." Suddenly he dropped his spoon and adjusted the view-screen controls. Gordon walked in, buttoning up his dungarees and yawning. "Brother," said the chief, "when we get back we're going to sleep for two weeks!" He looked at the busy linguist and was immediately wide awake. "What's up?"

Stuart pointed to the screen. "Native just peeked out." He reached over toward one of the cephaloids, mindless brains with tremendous memory and associative power, and began flipping switches. Activating solution flowed through the micro-cellular colloid; little lights on a panel winked on as the surface potentials reached operating level.

The linguist glanced briefly at the screen. "I guess there's time to show you one of its little tricks, just to warm it up," he said. He sang, in Universal Speech, a couple of ribald verses of "The Venus of Venus," then touched a switch. Immediately the song came back at him through a little speaker, but in English—and with the unmistakable drawl of Rogers. "I conditioned it a few minutes ago with his voice," explained Stuart. He was delighted with Gordon's reaction of incredulous astonishment. "It's really a wonderful mechanism, Gordon. It—oops! There's a native!"

He jabbed hastily at the "Primary Condition" stud, erasing the song and the accent, and switched on the remote control for the picture sequence. He handed Gordon a headset. "Will you monitor the pickup, please? The rest of this stuff will keep me busy." He fell silent, watching the screen.

Gordon reached over and switched on the movie camera set up beside him to record the scene.

V

Three scarlet natives had come out of the cave. They stood in a patch of brilliant sunlight, swinging their middle limbs about and playing with a sassy little monkey-rat as men would with a fox terrier. At length they picked up what seemed to be a crossbow and several spears, slung bundles across their sloping shoulders, and started down the trail. They walked slowly, spears at the ready, and were obviously alert. Frequently they glanced up, or paused as if listening.

Rounding a turn, the lead native stopped abruptly, leaped back and dropped flat. The other two dropped almost simultaneously. The leader motioned cautiously for his companions to crawl forward; he pointed with a tentacular upper limb toward the picture sequence machine gleaming in the morning light. On it was showing a picture of a native, enlarged from Stuart's picture of his temporary "prisoner."

The semanticist had evidently made a good guess in alien psychology, for no hostile move was made toward the machine. The natives lay there studying it, making occasional guarded gestures to each other. They stiffened as the next picture flipped into view. It was a Terrestrial family with two children. It was the picture Stuart kept beside his bunk, and was the best thing he could think of to put across the concept of a peaceful people.

Still no hostile move. No sounds, either, except the background chirping and jabbering of other animals.

Anxiously, Stuart fussed with his controls. He flipped to the next picture and a dozen after that without getting an audible response. The natives were shown views of Terrestrial life, New York and the space-port, the *Special Agent*, and two views of the receding Earth.

Then the linguist tried one of his sketches. It showed a globular ship, such as the Invaders were believed to have used, attacking the Terrestrial ship. In the following sketches, the Earth ship was damaged, but managed to destroy the other.

One of the natives was evidently jolted into comment at this point. "Aru!" came distinctly over the loudspeaker. Stuart immediately murmured "Picture Fifteen" in Universal Speech into

his microphone. He beamed at Gordon, relaxed a little, and hit the sequence button again.

The next set of pictures showed the approach to Azura, the landing, and Rogers' kindly treatment of the monkey-rats. Again a comment came from the middle native, evidently younger and less well-trained. This time he uttered several syllables, which the cephaloid duly absorbed. The rear native thwacked him across the back angrily. Stuart bounced in his seat with silent glee. He made microscopic adjustments to the analyzer and continued the show.

Behind him, the door opened quietly. Rogers came in with some breakfast for Gordon. The scout raised his eyebrows inquiringly; the chief winked and nodded at the screen, holding up a hand in the "okay" gesture. Stuart looked around at them, his finger hesitating over the sequence button. He shut off his mike for a moment. "This is one of the parts I'm dubious about. We swing into our sales talk here. Man sees native, puts down gun, and approaches peacefully. Then they exchange gifts."

He pushed the stud thoughtfully. "If the response to this is favorable, do you think we ought to go ahead with the rest?"

The chief frowned. "Sure. Why not?"

"Well . . . I suppose it would be foolish to stop now. I don't have enough material yet to prepare a verbal message, and they seem to be understanding this one anyway. On the other hand . . . they might not like this. It shows us helping them to rebuild a city, and giving them weapons." He lit a cigarette and hit the button again. "They might wonder what we want in return."

Gordon put down his coffee and scratched his chin. "Well, I don't think we ought to revise our plans now, Stuart. I think they'd be glad to offer us a base, in return for protection. We might as well go ahead."

The linguist nodded. The minutes passed as he continued the series of pictures. After a while he opened his mouth to say something, but was interrupted by a gabble of sounds from the pickup unit. The natives were pointing upward and discussing something. Pilot lights on the cephaloid hookup showed that the material was being received, passed back and forth for analy-

sis, and stored away. Stuart threw in a key word now and then to identify the picture being shown.

"It's clear that they understand," he whispered. "Now for the clincher. We help them fight off the Invaders. I hope they don't get the idea that our presence would make another Invader attack more likely."

He continued to push the stud every twenty or thirty seconds, lips moving as he counted. When the counter showed the end of the sequence approaching, he nodded in satisfaction. The natives were still talking to each other. "Good thing we've got these cephaloids," Stuart whispered. "An electronic analyzer could never sort out the three voices. Nor could any linguist alive, for that matter."

Once again he paused, finger hovering. "This is where we show them pictures of a blast rifle, how to use it, and so on—and then the magic box opens and we give them one." His whisper was faint, and he swallowed. "Should I go ahead?" He seemed to be asking himself.

Gordon studied him a few seconds. "Play it your own way, Stuart. The risk is yours, so the decision ought to be."

The linguist put out his cigarette with trembling fingers. "Yes. . . . I realize that I talked you into letting me go ahead with my own plan. But . . . you see . . . well, I've never done anything especially brave or dangerous, as all you fellows have. The plan *might* be made to work out without my actually going down there in person. I've been wondering what you would say if I . . . backed out."

The chief got up and clapped him on the back, awkwardly. "Why, not a thing, Stuart. Wouldn't say a word. A man's personal project is his own, in this kind of business. Long as it doesn't affect the welfare of anyone else, he can volunteer for, or refuse, any job."

Stuart smiled slowly and sat up straight. "Then I'll go ahead. I just wanted to be sure I could have backed out if I'd wanted to. If I do something worth while, I want it to be without compulsion." He punched the sequence button vigorously, while the chief stared at him with amused respect. He grinned back at Gordon. "Sit down, Captain, and keep an eye on the natives."

Gordon sat, applying his attention to the scene on the ground. "Think they'll get this part?"

"They certainly ought to. I even made a sketch of a native destroying a hell-cat with my new gun." After a few minutes of attentive study by the three natives, the series was finished. The language expert reached over and depressed a different stud without hesitation. "There it is. A nice little blast rifle, practically new!"

The screen showed the front of a box falling open under the sequence machine. The three Azurans raised their heads and stared. Then they looked up at the sky, and back at the box. Their conversation was excited, not at all hushed.

Finally the leader sent the third native around in a flanking move, equipped with the cross-bow. When the new position had been taken up, the three studied the situation and seemed to discuss its various aspects. Suddenly, while the flanker held a bead on the machine, the one who had been in the lead stood up and advanced warily toward the proffered gun. He studied it at close range, after looking over the scene carefully.

Abruptly he laid down his spear and seized the blast rifle. He remained crouching, obviously waiting for something to happen. When nothing did, he straightened up and began to examine the weapon. He turned to the last picture, still showing on the machine, and carefully conformed his tentacles around the gunstock as indicated. Then he looked about, as if seeking a target.

A large, brilliant blue tree about twenty meters away seemed to be his choice. He spent a moment getting the sights lined up and then pulled the trigger.

The entire lower half of the tree disappeared in a tremendous explosion of steam and splinters. The upper part of it came smashing down, as did great sections of others directly behind the target.

The stunned native staggered to his feet, still clutching the gun, and cooed at it lovingly. His two companions came running up, whistling and gabbling with excitement. They were allowed to take the gun up on the hill and try it out—at more distant targets. Several trees and a good-sized rock disappeared with a noisy violence that was obviously satisfactory.

The leader remained with the picture machine and began to

examine it. He jumped, startled, when Stuart flipped one more sketch into view. It showed the little scout ship about to land. After the native had studied it a while, Stuart gave him the last one. This was a sketch of the linguist himself, stepping out of the scout ship and greeting a waiting Azuran.

The reaction to this was immediate and positive. Shrill commands sent the smaller native into ambush in the shrubbery; the other came running down the hill, handed over the gun, and fled to the cave. The leader, still watching the sky, squatted down to wait, rifle beside him. After a moment he took something out of his knapsack and apparently began to munch on it. Twice he snatched up the gun and sighted through it, as though practising.

Stuart frowned at the screen. "They seem to understand I'm about to visit them, but they're not convinced they can trust visitors. No reason why they should be, I suppose." He disconnected the pickup unit from the cephaloid circuit.

Gordon cocked his head to one side reflectively. "Well, I don't think the situation is too bad. You've seen how cautious they are . . . they must have been very badly scared when their cities were destroyed. Perfectly natural. It's also evident they're not fundamentally warlike; their behavior shows an absence of military background. Even a couple of traders noticed that, by the way, over on the other side of the planet last year."

The linguist shook his head reprovingly. "Let's avoid semantic confusions when we can, Gordon. Their behavior does not fit in with *your* notion of military background. We have no right to say what it connotes *in their culture.*"

The captain acknowledged the reasonableness of this statement with a smile and left him to the solitude he needed. He began the task of receiving the material the cephaids had assimilated, feeding in associations of "probable general context" with the natives' comments regarding each picture. He laughed to himself as he realized that a certain amount of projection of his own notions was inevitable.

Such was the tremendous power of the cephaloids, and the delicate, almost intuitive skill of his handling, that the major part of the analysis was complete in little more than an hour. He switched the controls to "Translate, Univ. Sp. to Other."

Indicator needles shifted and steadied as the surface potentials readjusted in the semi-living colloids.

Then, before proceeding further, he asked the captain to join him again. When Gordon was seated, the expert smiled wrily at him. "This is usually considered very poor procedure, but there's only one word I can be fairly sure of as a check on this thing. It seems reasonable that, when the middle native exclaimed 'Aru!,' he meant 'Good'!! That was when we destroyed the attacking ship, if you remember. . . . a little fiction which I shall have to explain to them later." Into the microphone he said, in Universal Speech, "Good. That is good."

"Aru. Aru naa lo," replied the loudspeaker.

Stuart, though he relaxed a little then, lost no time. It took him only a few minutes to memorize several phrases which the jelly-and-silver translator gave him. By the time Brettner had the little scout ship warmed up for him, Stuart was prepared to tell the natives, "Peace! I come in peace. Your people and my people have the same enemy. Therefore let us be friends and work together. We shall give you large and strong weapons."

He turned to leave the lab, but stopped to squint once more at the screen. Only the native with the gun was visible, still grimly waiting. The linguist finished buckling on his gear with nervous fingers. "They look awfully well-disciplined to me," he murmured to himself. "Wish I felt a little more nonchalant about this!" He clumped down the passageway to Number Three Lock, where he met Brettner climbing out of the scout ship.

Brettner slapped him on the back, saying, "She's all wound up. Good luck, chum. Keep away from the girlies, hear?" From the control room, Rogers shouted gaily, "Send us a postcard, laddie. One of them Venus-type!" The two scouts guffawed heartily. Gordon looked out and waved at him.

The linguist climbed into the control seat, laughing in spite of himself. He waved at Brettner, shut the inner door, and opened the outer. A monitor light showed green. "Ready," he told the intercom. He was surprised at how steady his voice and hands were.

"Cast off!" came Gordon's voice.

VI

He touched the "release" button and felt himself flung away from the *Special Agent*. He boosted his little vessel around a semicircle several kilometers in diameter, as he had been instructed, so the position of the big ship would not be given away when he approached the ground. He overmodulated the drive then, to make plenty of noise, and headed directly for the waiting native. Over a suitable grassy spot, he waited until he was sure the Azuran had seen him; then he eased down slowly, careful not to make any sudden moves.

He landed with the nose about ten degrees too low, settled with a rolling bump, and opened the port as soon as he could manage. He mumbled to himself a bit, practising his little speech. Then he stepped out.

The blast rifle looked like a ninety-millimeter projector. It scowled viciously at his abdomen from only twenty paces away. He swallowed several times and managed a trembly little smile.

The native continued to inspect him sourly through the peepsight. A tentacle seemed to twitch impatiently at the trigger.

"After all," the linguist thought rapidly, "a facial expression such as a smile is probably meaningless to him. I shall have to make a more significant sign, as in that sketch." He unbuckled his holster belt and carefully laid it to one side, handguns and all. Still no response.

He walked forward halfway to the native, holding up his open hands. He recited his speech, then, and stood waiting.

With his first words, the other's attitude changed. The gun was lowered slowly while the native stared at him with big, black, disk-like eyes. He stared back, examining the bright red native with interest. Long feet, with two toes like pincers; heavily muscled legs; middle limbs like arms, with short, powerful hands of a sort; two six-fingered tentacles growing out from the sides of the head—

One of the middle limbs reached out and tugged at his arm experimentally. The native said something evidently meaning "Come along." Stuart walked along with him, reporting "Okay, so far," into his radio. The two beings walked up to the entrance to the cave, from where the scout ship could just be seen. Sud-

denly the smaller native sprang out of the brush and backed the linguist against a tree, holding the cross-bow almost at his throat. The first native whirled, aimed the blast rifle at the scout ship, and fired. There was a flash at the ship's bow, and a deep gash was blasted into the metal.

"Aru!" said the natives.

Stuart's earphone crackled, but the signal was weak. "What's going on?" came Gordon's voice, faintly. "Get away from them and we'll blow them to smithereens!"

He tried to think clearly. "I don't know how to get away," he realized miserably. "Never had any of that combat training." He found the native with the blast rifle chattering at him; the other had withdrawn the cross-bow from his throat. "I'm all right," he reported weakly. He listened to the native a moment, then added, "This is rather puzzling, though. They actually seem friendly. I believe one of them is telling me that we're friends now."

"That lousy iron hill you're on is killing your signal, Stuart. I can hardly hear you. You're in plain sight, though, through the telescope. Shall we come after you?"

The natives were pulling at the linguist's arm, urging him toward the cave. "No, keep out of sight a while," he shouted, shaking his head. "I believe they want me to come with them."

The reply from the *Special Agent* was unintelligible. Stuart allowed the Azurans to guide him into the cave; he was not surprised to find it the end of a long tunnel through the coral. Two other natives came running past and took up positions as guards just inside the entrance.

The phosphorescent material of the hill itself supplied a feeble light. There seemed to be an alarm system of some sort, for handles were set into small square boxes on the walls every fifty meters or so.

During the hour-long walk, Stuart learned bits of the natives' language. If one could apply the hitherto universally valid criteria of the Linguistic Academy, he decided, this language represented a long history of high culture and philosophical achievement. He found the idea encouraging.

He was already constructing simple sentences when the tunnel turned sharply and entered a small cave. It was really an

underground room, he noticed, with several corridors leading away. One of his guides pulled a lever; a moment later a dozen other natives entered the room. With them was a monkey-rat, sporting Rogers' two hunting knifes; it pointed to the linguist and chattered shrilly. The linguist recognized one of the Azurans as the one he had caught. The first to enter, however, seemed considerably older than the rest. Stuart guessed he was a high official.

The elderly one approached the Earthman and held out his tentacles to the sides. It seemed to mean something. There was a short, tense silence.

"Of course!" exclaimed Stuart to himself. "The gesture of peaceful intent: showing the absence of weapons!" He held up his hands, likewise empty, and repeated his speech.

There were murmurs of "Aru!" around him. Unobtrusive weapons were unobtrusively lowered. Sketching materials were brought to the official: sheets of something like parchment, and a reed which exuded an inky substance through a fine hole. Two blocks of what seemed to be extraordinarily soft wood were carried in; the official sat down, somewhat in human fashion, and motioned the language expert to do likewise.

The "conversation" lasted almost two hours. Stuart, by sketching and using a few words, explained his mission. The natives seemed to understand; judging by their awareness of the outer universe, they had considerable scientific knowledge. He guessed, though, that their technology was more biological than mechanical. They knew where the Invaders were from, what they had looked like, and how some of their mechanisms had operated. But Azuran culture, never warlike, had been unable to strike back, and had been so badly smashed that there had been no opportunity to use the captured knowledge.

"They nearly destroyed my people," explained the official with words and pictures. "We were many millions. Now only thousands. We saved what we could and hid underground, scattered. For five years we have struggled to stay alive. Now we are regaining our strength and can think of building again. But always we must be ready for the Invaders. They killed for nothing or for amusement. Took nothing except specimens; apparently they wanted nothing here but sport. They simply attacked without warning one day, all over the planet, and hunted us for fifty-

four days. Then they disappeared. We caught a few live ones outside their ships by trickery, and we captured two small ships the same way. But in our difficulty we have had little time to investigate the ships."

"Where are the captured creatures?" asked Stuart.

"Oh, they did not live long." The other's manner did not indicate regret. "They needed high temperature and a special atmosphere to stay alive, and of course we had inadequate means to care for them. We made very thorough biological studies of them, however." He shook his tentacles, as if in disgust. "They were remarkably unpleasant. Colorless, and gritty to the touch. Completely hateful. They used to throw dissected specimens of our people out of their ships; sometimes live people were dropped."

He nodded toward the blast rifle. "You are good to offer weapons. From certain records we found, we believe the enemy will return soon. I understand your need for a base here. I can speak for my people . . . what is left of them. We accept your offer. Come down again tomorrow to the clearing in your big ship. Our highest leader will be present, and a treaty will be made."

Abruptly, thus, the interview was over. The old native was obviously tired. The linguist got to his feet, intending to express his pleasure at the outcome. He had his mouth open, and it stayed that way when the blast rifle was suddenly thrust into his hands. The official, who had handed it to him, put a tentacle on his shoulder in what Stuart recognized as a gesture of friendship.

The linguist grinned, put his hand on the other's shoulder, and handed back the weapon.

There was a great din of whistling and cries of "Aru! Aru naa lo!" It became a sort of cheer, with a crowd of natives following Stuart and his three guides back down the tunnel. The old official stood and watched them go.

Back in the daylight, the linguist was startled to discover that Procyon was low in the sky and that night was near. He hurried down the path toward his scout ship to get away from the iron hill. Hastily he switched on his radio. Before he could catch his breath enough to talk, he heard White's voice.

"Hey, I see him! There he is, chief; there's the little guy!" Sounds of the drive being activated came through the earphone.

Gordon's voice cut in. "You okay, Stuart?"

"Yes, yes, I'm all right. Come on down—peaceably."

"What's the deal?"

"They're convinced. They'll have their president, or whatever, here in the morning to sign a treaty with us."

"WHAT?!"

A moment later the big ship landed with a silent rush, flattening out a large expanse of scrub. The ground crunched under it. A dozen wide-eyed natives watched from a respectful distance.

The lower port flew open; Gordon and Rogers came scrambling down the ladder. The two men came running over, handguns swinging heavily at their sides. The turret guns were trained on the hill before the cave.

"Is this on the level?" demanded Gordon.

"Yes. I'll explain later, after I've had some sleep."

The captain's eye fell on the scout ship. "Looks like your ship will navigate all right," he said, still out of breath. "Probably have to replace the autopilot and tracker, though. But why in blazes did they take a shot at it? And why wasn't your defensive field on?"

The linguist kicked a pebble. "I forgot to ask them why they did that. I guess they figured my gesture of offering a weapon didn't mean much unless I was vulnerable to the weapon myself. Or maybe they felt that, if I came in good faith, I'd come without protection. Anyway, they didn't want to shoot me just to find out, so they tested it on the ship and decided I was—er, on the level. If it *had* been on, they'd probably have shot me immediately with the cross-bow. Or maybe they'd have figured out what the glow was and shot me without testing it. Then they'd have gone back in the tunnel and sealed it up for good."

He suddenly laughed aloud, face alight with pleasure and surprised realization. "For the first time on this trip, I'm glad I've never had any military experience! If I'd been well-trained, that field would have been turned on!"

Gordon's strained face relaxed. He looked at Stuart in awe, and put an arm around his shoulders. After a moment he said, musingly, "What do we do next? We've got to get back, but we also ought to see this through when the brass gets here."

Stuart's reply was prompt. "You go back. Leave me food for a couple of days and tell Patrol to bring me what I need for a long stay. I'll see this thing through."

"Can I take a picture of you tomorrow with the Azuran big chief? It'd look swell in the papers back home." Gordon's tone was bantering.

The linguist looked him in the eye. "I wish you would," he said, soberly.

The Rull

BY A. E. VAN VOGT

PROFESSOR JAMIESON saw the other space boat out of the corner of one eye. He was sitting in a hollow about a dozen yards from the edge of the precipice, and some score of feet from the doorway of his own lifeboat. He had been intent on his survey book, annotating a comment beside the voice graph, to the effect that Laertes III was so close to the invisible dividing line between Earth-controlled and Rull-controlled space that its prior discovery by man was in itself a major victory in the Rull-human war.

He wrote: "The fact that ships based on this planet could strike at several of the most densely populated areas of the galaxy, *Rull or human,* gives it an AA priority on all available military equipment. Preliminary defense units should be set up on Mount Monolith, where I am now, within three we—"

It was at that point that he saw the other boat, above and somewhat to his left, approaching the tableland. He glanced up at it—and froze where he was, torn between two opposing purposes.

His first impulse, to run for the lifeboat, yielded to the realization that the movement would be seen instantly by the elec-

tronic reflexes of the other ship. For a moment, then, he had the dim hope that, if he remained quiet enough, neither he nor his ship would be observed.

Even as he sat there, perspiring with indecision, his tensed eyes noted the Rull markings and the rakish design of the other vessel. His vast knowledge of things Rull enabled him to catalogue it instantly as a survey craft.

A *survey* craft. The Rulls had discovered the Laertes sun.

The terrible potentiality was that, behind this small craft, might be fleets of battleships, whereas he was alone. His own lifeboat had been dropped by the *Orion* nearly a parsec away, while the big ship was proceeding at antigravity speeds. That was to insure that Rull energy tracers did not record its passage through this area of space.

The *Orion* was to head for the nearest base, load up with planetary defense equipment, and return. She was due in ten days.

Ten days. Jamieson groaned inwardly, and drew his legs under him and clenched his survey book in the fingers of one hand. But still the possibility his ship, partially hidden under a clump of trees, might escape notice if *he* remained quiet, held him there in the open. His head tilted up, his eyes glared at the alien, and his brain willed it to turn aside.

Once more, flashingly, while he waited, the implications of the disaster that could be here, struck deep. In all the universe there had never been so dangerous an intelligence as the Rull. At once remorseless and immune to all attempts at establishing communication, Rulls killed human beings on sight. A human-manned warship that ventured into Rull-patrolled space was attacked until it withdrew or was destroyed. Rull ships that entered Earth-controlled space *never* withdrew once they were attacked. In the beginning, man had been reluctant to engage in a death struggle for the galaxy. But the inexorable enemy had forced him finally to match in every respect the tenacious and murderous policies of the Rull.

The thought ended. The Rull ship was a hundred yards away, and showed no signs of changing its course. In seconds, it would cross the clump of trees, which half-hid the lifeboat.

In a spasm of a movement, Jamieson launched himself from

his chair. Like a shot from a gun, with utter abandon, he dived for the open doorway of his machine. As the door clanged behind him, the boat shook as if it had been struck by a giant. Part of the ceiling sagged; the floor staggered towards him, and the air grew hot and suffocating.

Gasping, Jamieson slid into the control chair, and struck at the main emergency switch. The rapid fire blasters huzzaed into automatic firing positions, and let go with a hum and deep-throated *ping*. The refrigerators whined with power; a cold blast of air blew at his body. The relief was so quick that a second passed before Jamieson realized that the atomic engines had failed to respond. And that the lifeboat, which should already have been sliding into the air, was still lying inert in an exposed position.

Tense, he stared into the visiplates. It took a moment to locate the Rull ship. It was at the lower edge of one plate, tumbling slowly out of sight beyond a clump of trees a quarter of a mile away. As he watched, it disappeared; and then the crash of the landing came clear and unmistakable from the soundboard in front of him.

The relief that came was weighted with an awful reaction. Jamieson sank back into the cushions of the control chair, weak from the narrowness of his escape. The weakness ended abruptly as a thought struck him. There had been a sedateness about the way the enemy ship fell. *The crash hadn't killed the Rulls aboard.*

He was alone in a damaged lifeboat on an impassable mountain with one or more of the most remorseless creatures ever spawned. For ten days, he must fight in the hope that man would still be able to seize the most valuable planet discovered in a century.

He saw in his visiplate that it was growing darker outside.

Jamieson opened the door, and went out onto the tableland. He was still trembling with reaction, but there was no time to waste.

He walked swiftly to the top of the nearest hillock a hundred feet away, taking the last few feet on his hands and knees. Cautiously, he peered over the rim.

Most of the mountain top was visible. It was a rough oval

some eight hundred yards wide at its narrowest, a wilderness of scraggly brush and upjutting rock, dominated here and there by clumps of trees. There was not a movement to be seen, and not a sign of the Rull ship. Over everything lay an atmosphere of desolation, and the utter silence of an uninhabited wasteland.

The twilight was deeper, now that the sun had sunk below the southwest precipice. And the deadly part was that, to the Rulls, with their wider vision and more complete sensory equipment, the darkness would nean nothing. All night long, he would have to be on the defensive against beings whose nervous systems outmatched his in every function except, possibly, intelligence. On that level, and that alone, human beings claimed equality.

The very comparison made him realize how desperate his situation was. He needed an advantage. If he could get to the Rull wreck, and cause them some kind of damage before it got pitch dark, before they recovered from the shock of the crash, that alone might make the difference between life and death for him.

It was a chance he had to take.

Hurriedly, Jamieson backed down the hillock, and, climbing to his feet, started to run along a shallow wash. The ground was rough with stones and projecting edges of rock and the gnarled roots and tangle of hardy growth. Twice, he fell, the first time gashing his right hand, the second time his right foot.

It slowed him mentally and physically. He had never before tried to make speed over the pathless wilderness of the tableland. He saw that in ten minutes he had covered a distance of just under seventy-five yards.

Jamieson stopped. It was one thing to be bold on the chance of making a vital gain. It was quite another to throw away his life on a reckless gamble. The defeat would not be his alone, but man's.

As he stood there, he grew aware of how icy cold it had become. A chilling wind from the east had sprung up. By midnight, the temperature would be zero. For it was autumn on Laertes III. Soon, snow would be stinging down on an ever more barren land, and then winter would settle for eight long months. The original exploratory party had extracted from the flora and the fauna, and the soil and the rocks the cyclic secrets of the planet's

existence. And in their two years stay they had mapped the gyrations of every wind, cold and heat source on its uneven surface.

Jamieson began to retreat. There were several defenses to rig up before night fell; and he had better hurry. An hour later, when the moonless darkness lay heavily over the mountain of mountains, Jamieson sat tensely before his visiplates.

It was going to be a long night for a man who dared not sleep.

It was shortly after midnight—Laertes III had a twenty-six hour, sidereal time, day—when Jamieson saw a movement at the remote perimeter of his all-wave vision plate. Finger on blaster control, he waited for the object to come into sharper focus.

It never did. The cold dawn found him weary but still alertly watching for an enemy that was acting as cautiously as he himself.

He began to wonder if he had actually seen anything.

Jamieson took another antisleep pill and made a more definite examination of the atomic motors. It didn't take long to verify his earlier diagnosis. The basic graviton pile had been thoroughly frustrated. Until it could be reactivated on the *Orion*, the motors were useless.

The conclusive examination braced Jamieson. He was committed irrevocably to the battle of the tableland, with all its intricate possibilities. The idea that had been turning over in his mind during the prolonged night took on new meaning. This was the first time in his knowledge that a Rull and a human being had faced each other on a limited field of action, where neither was a prisoner. The great battles in space were ship against ship and fleet against fleet. Survivors either escaped or were picked up by overwhelming forces. Actually, both humans and Rulls, captured or facing capture, were conditioned to kill themselves. Rulls did it by a mental *willing* that had never been circumvented. Men had to use mechanical methods, and in some cases that had proved impossible. The result was that Rulls had had occasional opportunities to experiment on living, conscious men.

Unless he was bested, before he could get organized, here was a priceless opportunity to try some tests on Rulls—and without

delay. Every moment of daylight must be utilized to the uttermost limit.

Jamieson put on his special "defensive" belts, and went outside.

The dawn was brightening minute by minute; and the vistas that revealed themselves with each increment of light power held him, even as he tensed his body for the fight ahead. *Why*, he thought, in a sharp, excited wonder, *all this is happening on the strangest mountain ever known.*

Mount Monolith, discovered at the same time as the planet, two years before, had been named in the first words spoken about it. "Look at that monolith down there!" On a level plain that column stood, and reared up precipitously to a height of eight thousand two hundred feet. The most majestic pillar in the known universe, it easily qualified as one of the hundred natural wonders of the galaxy.

Standing there, Jamieson felt, not for the first time, the greatness of man's destiny. Defender and ally of thousands of lifeforms, chief enemy of the encroaching Rull menace— In his eighteen years of military service he had gazed on many alien scenes. He had walked the soil of planets two hundred thousand light-years from Earth. As head of the fleet's science division, he had been absolute commander—under law and regulation—of ships so powerful that whole groups of inhabited worlds were helpless before their irresistible might—ships that flashed from the eternal night into the blazing brightness of suns red and suns blue, suns yellow and white and orange and violet, suns so wonderful and different that no previous imaginings could match the reality.

Yet, despite the greatness of his rank, here he stood on a mountain on far Laertes, one man compelled by circumstance to pit his cunning against one or more of the supremely intelligent Rull enemy. The information about the discovery of the Laertes planet had been relayed to him through the usual routine channels. Instantly he had seen what the others had missed, that it would be a key base against either galactic hemisphere. Since battleships did not normally carry the type of planetary oryctologist who could make a co-ordinated survey, he had not hesitated to step into the breach.

Even as it was, the first great advantage was already lost.

Jamieson shook himself grimly. It was time to launch his attack—and discover the opposition that could be mustered against him.

That was Step One, and the important point about it was to insure that it wasn't also Step Last.

By the time the Laertes sun peered palely over the horizon that was the northeast cliff's edge, the assault was under way. The automatic defensors, which he had set up the night before, moved slowly from point to point ahead of the mobile blaster.

Jamieson cautiously saw to it that one of the three defensors also brought up his rear. He augmented that basic protection by crawling from one projecting rock after another. The machines he manipulated from a tiny hand control, which was connected to the visiplates that poked out from his headgear just above his eyes. With tensed eyes, he watched the wavering needles that would indicate movement or that the defensor screens were being subjected to energy opposition.

Nothing happened.

As he came within sight of the Rull craft, Jamieson stalled his attack, while he seriously pondered the problem of no resistance. He didn't like it. It was possible that all the Rulls aboard had been killed, but he doubted it mightily. Rulls were almost boneless. Except for half a dozen strategically linked cartilages, they were all muscle.

With bleak eyes, Jamieson studied the wreck through the telescopic eyes of one of the defensors. It lay in a shallow indentation, its nose buried in a wall of gravel. Its lower plates were collapsed versions of the original. His single energy blast the evening before, completely automatic though it had been, had really dealt a smashing blow to the Rull ship.

The over-all effect was of utter lifelessness. If it was a trick, then it was a very skillful one. Fortunately, there were tests he could make, not absolutely final but evidential and indicative.

He made them.

The echoless height of the most unique mountain ever discovered hummed with the fire-sound of the mobile blaster. The noise grew to a roar as the unit's pile warmed to its task, and developed its maximum kilo curie activity.

Under that barrage, the hull of the enemy craft trembled a

little and changed color slightly, but that was all. After ten minutes, Jamieson cut the power, and sat baffled and indecisive.

The defensive screens of the Rull ship were full on. Had they gone on automatically after his first shot of the evening before? Or had they been put up deliberately to nullify just such an attack as this?

He couldn't be sure. That was the trouble; he had no positive knowledge. The Rull could be lying inside dead. (Odd, how he was beginning to think in terms of one rather than several, but he had a conviction that two live Rulls would not be cautious in dealing with one human being—of course, they couldn't be absolutely sure there was only one.) It could be wounded and incapable of doing anything against him. It could have spent the night marking up the tableland with *elled* nerve control lines —he'd have to make sure he never looked directly at the ground —or it could simply be waiting for the arrival of the greater ship that had dropped it onto the planet.

Jamieson refused to consider the last possibility. That way was death, without qualification or hope.

Frowningly, he studied the visible damage he had done the ship. All the hard metals had held together, so far as he could see, but the whole bottom of the ship was dented to a depth that varied from one to four feet. Some radiation must have got in, and the question was, what would it have damaged?

He had examined dozens of captured Rull survey craft, and if this one ran to the pattern, then in the front would be the control center, with a sealed off blaster chamber. In the rear the engine room, two storerooms, one for fuel and equipment, the other for food and—

For food. Jamieson jumped, and then with wide eyes noted how the food section had suffered greater damage than any other part of the ship.

Surely, surely, some radiation must have got into it, poisoning it, ruining it, and instantly putting the Rull, with his swift digestive system, into a deadly position.

Jamieson sighed with the intensity of his hope, and prepared to retreat. As he turned away, quite incidentally, accidentally, he glanced at the rock behind which he had shielded himself from possible direct fire.

Glanced at it, and saw the *elled* lines in it. Intricate lines, based on a profound and inhuman study of the human nervous system. Jamieson recognized them, and stiffened in horror. He thought in anguish: *Where,* where *am I supposed to fall? Which cliff?*

With a desperate will, with all his strength, he fought to retain his senses a moment longer. He strove to see the lines again. He saw, briefly, flashingly, five vertical and above them three lines that pointed east with their wavering ends.

The pressure built up, up, up inside him, but still he fought to keep his thoughts moving. Fought to remember if there were any wide ledges near the top of the east cliff.

There were. He recalled them in a final agony of hope. *There,* he thought. *That one,* that *one, Let me fall on that one.* He strained to hold the ledge image he wanted, and to repeat, repeat the command that might save his life. His last, dreary thought was that here was the answer to his doubts. The Rull *was* alive.

Blackness came like a curtain of pure essence of night.

From the far galaxy had he come, a cold, remorseless leader of leaders, the *yeli,* Meeesh, the Iiin of Ria, the high Aaish of the Yeell. And other titles, and other positions, and power. Oh, the power that he had, the power of death, the power of life and the power of the Leard ships.

He came in his great anger to discover what was wrong. A thousand years before the command had been given: Expand into the Second galaxy. Why were they-who-could-not-be-more-perfect so slow in carrying out these instructions? What was the nature of the two-legged creatures whose multitudinous ships, impregnable planetary bases and numerous allies had fought those-who-possessed-Nature's-supreme-nervous-system to an impasse?

"Bring me a live human being!" The command echoed to the ends of Riatic space.

It produced a dull survivor of an Earth cruiser, a sailor of low degree with an I.Q. of ninety-six, and a fear index of two hundred and seven. The creature made vague efforts to kill himself, and squirmed on the laboratory tables, and finally escaped into death when the scientists were still in the beginning of the ex-

periments which *he* had ordered to be performed before his own eyes.

"*Surely, this is not the enemy.*"

"Sire, we capture so few that are alive. Just as we have conditioned our own loved-ones, so do they seem to be conditioned to kill themselves in case of capture."

"The environment is wrong. We must create a situation where the captured does not know himself to be prisoner. Are there any possibilities?"

"The problem will be investigated."

He had come, as the one who will conduct the experiment, to the sun where a man had been observed seven periods before—"in a small craft that fell from a point in space, obviously dropped by a warship. And so we have a new base possibility.

"No landings have yet been made, as you instructed; no traces of our presence. It may be assumed that there was an earlier human landing on the third planet. A curious mountain top. Will be an ideal area for our purposes."

A battle group patrolled the space around the sun. But *he* came down in a small ship; and because he had contempt for his enemy, he flew in over the mountain, fired his disabling blast at the ship on the ground—and then was struck by a surprisingly potent return blast, that sent his machine spinning to a crash.

Almost, in those seconds, death came. But he crawled out of his control chair, shocked but still alive. With thoughtful eyes, he assessed the extent of the disaster that had befallen him.

He had issued commands that he would call when he needed help. But he could not call. The radio was shattered beyond repair. He had a strange, empty sensation when he discovered that his food was poisoned.

Swiftly, he stiffened to the necessities of the situation.

The experiment would go on, with one proviso. When the need for food became imperative, he would kill the man, and so survive until the commanders of the ships grew alarmed, and came down to see what had happened.

Part of the sunless period, he spent exploring the cliff's edge. Then he hovered on the perimeter of the man's defensor energies, studying the lifeboat, and pondering the possible actions the other might take against him.

Finally, with a tireless patience he examined the approaches

to his own ship. At key points, he drew the lines that-could-seize-the-minds-of-men. There was satisfaction, shortly after the sun came up, in seeing the enemy "caught" and "compelled." The satisfaction had but one drawback.

He could not take the advantage of the situation that he wanted.

The difficulty was that the man's blaster had been left focused on his main air lock. It was not emitting energy, but the Rull did not doubt that it would fire automatically if the door opened.

What made the situation serious was that, when he tried the emergency exit, it was jammed.

It hadn't been. With the forethought of his kind, he had tested it immediately after the crash. Then it opened.

Now, it didn't. The ship, he decided, must have settled while he was out during the sunless period. Actually, the reason for what had happened didn't matter. What counted was that he was locked in just when he wanted to be outside.

It wasn't as if he had definitely decided to destroy the man immediately. If capturing him meant gaining control of his food supply, then it would be unnecessary to give him death. It was important to be able to make the decision, however, while the man was helpless; and the further possibility that the *elled* fall might kill him made the *yeli* grim. He didn't like accidents to disturb his plans.

From the beginning the affair had taken a sinister turn. He had been caught up by forces beyond his control, by elements of space and time which he had always taken into account as being theoretically possible, but he had never considered them as having personal application.

That was for the deeps of space where the Leard ships fought to extend the frontiers of the perfect ones. Out there lived alien creatures that had been spawned by Nature before the ultimate nervous system was achieved. All those aliens must die because they were now unnecessary, and because, existing, they might accidently discover means of upsetting the balance of Yeellian life. In civilized Ria accidents were forbidden.

The Rull drew his mind clear of such weakening thoughts.

He decided against trying to open the emergency door. Instead, he turned his blaster against a crack in the hard floor. The

frustrators blew their gases across the area where he had worked, and the suction pumps caught the swirling radioactive stuff and drew it into a special chamber. But the lack of an open door as a safety valve made the work dangerous. Many times he paused while the air was cleansed, and the counter needles shook themselves toward zero, so that he could come out again from the frustrating chamber to which he retreated whenever the heat made his nerves tingle—a more reliable guide than any instrument that had to be watched.

The sun was past the meridian when the metal plate finally lifted clear, and gave him an opening into the gravel and rock underneath. The problem of tunneling out into the open was easy except that it took time and physical effort. Dusty and angry and hungry, the Rull emerged from the hole near the center of the clump of trees beside which his craft had fallen.

His plan to conduct an experiment had lost its attraction. He had obstinate qualities in his nature, but he reasoned that this situation could be reproduced for him on a more civilized level. No need to take risks or to be uncomfortable. Kill the man and use him as food until the ships came down to rescue him.

With hungry gaze, he searched the ragged, uneven east cliff, peering down at the ledges, crawling swiftly along until he had virtually circumvented the tableland. He found nothing he could be sure about. In one or two places the ground looked lacerated as by the passage of a body, but the most intensive examination failed to establish that anyone had actually been there.

Somberly, the Rull glided towards the man's lifeboat. From a safe distance, he examined it. The defense screens were up, but he couldn't be sure they had been put up before the attack of the morning, or had been raised since then, or had come on automatically at his approach.

He couldn't be sure. That was the trouble. Everywhere, on the tableland around him, was a barrenness, a desolation unlike anything else he had ever known. The man could be dead, his smashed body lying at the remote bottom of the mountain. He could be inside the ship badly injured; he had, unfortunately, *had* time to get back to the safety of his craft. Or he could be waiting inside, alert, aggressive, and conscious of his enemy's

uncertainty, determined to take full advantage of that uncertainty.

The Rull set up a watching device, that would apprise him when the door opened. Then he returned to the tunnel that led into his ship, laboriously crawled through it, and settled himself to wait out the emergency.

The hunger in him was an expanding force, hourly taking on a greater urgency. It was time to stop moving around. He would need all his energy for the crisis.

The days passed.

Jamieson stirred in an effluvium of pain. At first it seemed all-enveloping, a mist of anguish that bathed him in sweat from head to toe. Gradually, then, it localized in the region of his lower left leg.

The pulse of the pain made a rhythm in his nerves. The minutes lengthened into an hour, and then he finally thought: *Why, I've got a sprained ankle!* He had more than that, of course. The pressure that had driven him here clung like a gravitonic plate. How long he lay there, partly conscious, was not clear, but when he finally opened his eyes, the sun was still shining on him, though it was almost directly overhead.

He watched it with the mindlessness of a dreamer as it withdrew slowly past the edge of the overhanging precipice. It was not until the shadow of the cliff suddenly plopped across his face that he started to full consciousness with a sudden memory of deadly danger.

It took a while to shake the remnants of the *elled* "take" from his brain. And, even as it was fading, he sized up, to some extent, the difficulties of his position. He saw that he had tumbled over the edge of a cliff to a steep slope. The angle of descent of the slope was a sharp fifty-five degrees, and what had saved him was that his body had been caught in the tangled growth near the edge of the greater precipice beyond.

His foot must have twisted in those roots, and sprained.

As he finally realized the nature of his injuries, Jamieson braced up. He was safe. In spite of having suffered an accidental defeat of major proportions, his intense concentration on this slope, his desperate will to make *this* the place where he must fall, had worked out.

He began to climb. It was easy enough on the slope, steep as it was; the ground was rough, rocky and scraggly with brush. It was when he came to the ten-foot overhanging cliff that his ankle proved what an obstacle it could be.

Four times he slid back, reluctantly; and then, on the fifth try, his fingers, groping desperately over the top of the cliff, caught an unbreakable root. Triumphantly, he dragged himself to the safety of the tableland.

Now that the sound of his scraping and struggling was gone, only his heavy breathing broke the silence of the emptiness. His anxious eyes studied the uneven terrain. The tableland spread before him with not a sign of a moving figure anywhere.

To one side, he could see his lifeboat. Jamieson began to crawl toward it, taking care to stay on rock as much as possible. What had happened to the Rull he did not know. And since, for several days, his ankle would keep him inside his ship, he might as well keep his enemy guessing during that time.

Professor Jamieson lay in his bunk, thinking. He could hear the beating of his heart. There were the occasional sounds when he dragged himself out of bed. But that was almost all. The radio, when he turned it on, was dead. No static, not even the fading in and out of a wave. At this colossal distance, even subspace radio was impossible.

He listened on all the more active Rull wave lengths. But the silence was there, too. Not that they would be broadcasting if they were in the vicinity.

He was cut off here in this tiny ship on an uninhabited planet, with useless motors.

He tried not to think of it like that. "Here," he told himself, "is the opportunity of a lifetime for an experiment."

He warmed to the idea as a moth to flame. Live Rulls were hard to get hold of. About one a year was captured in the unconscious state, and these were regarded as priceless treasures. But here was an even more ideal situation.

We're prisoners, both of us. That was the way he tried to picture it. Prisoners of an environment, and, therefore, in a curious fashion, prisoners of each other. Only each was free of the conditioned need to kill himself.

There were things a man might discover. The great mysteries

—as far as men were concerned—that motivated Rull actions. Why did they want to destroy other races totally? Why did they needlessly sacrifice valuable ships in attacking Earth machines that ventured into their sectors of space—when they knew that the intruders would leave in a few weeks anyway? And why did prisoners who could kill themselves at will commit suicide without waiting to find out what fate was intended for them? Some times they were merely wanted as messengers.

Was it possible the Rulls were trying to conceal a terrible weakness in their make-up of which man had not yet found an inkling?

The potentialities of this fight of man against Rull on a lonely mountain exhilarated Jamieson as he lay on his bunk, scheming, turning the problem over in his mind.

There were times during those dog days when he crawled over to the control chair, and peered for an hour at a stretch into the visiplates. He saw the tableland and the vista of distance beyond it. He saw the sky of Laertes III, bluish pink sky, silent and lifeless.

He saw the prison. Caught here, he thought bleakly. Professor Jamieson, whose appearance on an inhabited planet would bring out unwieldy crowds, whose quiet voice in the council chambers of Earth's galactic empire spoke with final authority—that Jamieson was here, alone, lying in a bunk, waiting for a leg to heal, so that he might conduct an experiment with a Rull.

It seemed incredible. But he grew to believe it as the days passed.

On the third day, he was able to move around sufficiently to handle a few heavy objects. He began work immediately on the mental screen. On the fifth day it was finished. Then the story had to be recorded. That was easy. Each sequence had been so carefully worked out in bed that it flowed from his mind onto the visiwire.

He set it up about two hundred yards from the lifeboat, behind a screening of trees. He tossed a can of food a dozen feet to one side of the screen.

The rest of the day dragged. It was the sixth day since the arrival of the Rull, the fifth since he had sprained his ankle.

Came the night.

A gliding shadow, undulating under the starlight of Laertes III, the Rull approached the screen the man had set up. How bright it was, shining in the darkness of the tableland, a blob of light in a black universe of uneven ground and dwarf shrubbery.

When he was a hundred feet from the light, he sensed the food —and realized that here was a trap.

For the Rull, six days without food had meant a stupendous loss of energy, visual blackouts on a dozen color levels, a dimness of life-force that fitted with the shadows, not the sun. That inner world of disjointed nervous system was like a run-down battery with a score of organic "instruments" disconnecting one by one as the energy level fell. The *yeli* recognized dimly, but with a savage anxiety, that only a part of that nervous system would ever be restored to complete usage. And, even for that, speed was essential. A few more steps downward, and then the old, old conditioning of mandatory self-inflicted death would apply even to the high Aaish of the Yeell.

The worm body grew quiet. The visual center behind each eye accepted light on a narrow band from the screen. From beginning to end, he watched the story as it unfolded, and then watched it again, craving repetition with all the ardor of a primitive.

The picture began in deep space with the man's lifeboat being dropped from a launching lock of a battleship. It showed the battleship going on to a military base, and there taking on supplies and acquiring a vast fleet of reinforcements, and then starting on the return journey. The scene switched to the lifeboat dropping down on Laertes III, showed everything that had subsequently happened, suggested the situation was dangerous to them both—and pointed out the only safe solution.

The final sequence of each showing of the story was of the Rull approaching the can, to the left of the screen, and opening it. The method was shown in detail, as was the visualization of the Rull busily eating the food inside.

Each time that sequence drew near, a tenseness came over the Rull, a will to make the story real. But it was not until the seventh showing had run its course that he glided forward, closing the last gap between himself and the can. It was a trap, he knew, perhaps even death—it didn't matter. To live, he had to take

the chance. Only by this means, by risking what was in the can, could he hope to remain alive for the necessary time.

How long it would take for the commanders cruising up there in the black of space in their myriad ships—how long it would be before they would decide to supersede his command, he didn't know. But they would come. Even if they waited until the enemy ships arrived before they dared to act against his strict orders, they would come.

At that point they could come down without fear of suffering from his ire.

Until then he would need all the food he could get.

Gingerly, he extended a sucker, and activated the automatic opener of the can.

It was shortly after four in the morning when Professor Jamieson awakened to the sound of an alarm ringing softly. It was still pitch dark outside—the Laertes day was twenty-six sidereal hours long; he had set his clocks the first day to co-ordinate—and at this season dawn was still three hours away.

Jamieson did not get up at once. The alarm had been activated by the opening of the can of food. It continued to ring for a full fifteen minutes, which was just about perfect. The alarm was tuned to the electronic pattern emitted by the can, once it was opened, and so long as any food remained in it. The lapse of time involved fitted with the capacity of one of the Rull's suckers in absorbing three pounds of pork.

For fifteen minutes, accordingly, a member of the Rull race, man's mortal enemy, had been subjected to a pattern of mental vibrations corresponding to its own thoughts. It was a pattern to which the nervous systems of other Rulls had responded in laboratory experiments. Unfortunately, those others had killed themselves on awakening, and so no definite results had been proved. But it had been established by the ecphoriometer that the "unconscious" and not the "conscious" mind was affected.

Jamieson lay in bed, smiling quietly to himself. He turned over finally to go back to sleep, and then he realized how excited he was.

The greatest moment in the history of Rull-human warfare. Surely, he wasn't going to let it pass unremarked. He climbed out of bed, and poured himself a drink.

The attempt of the Rull to attack him through his unconscious mind had emphasized his own possible actions in that direction. Each race had discovered some of the weaknesses of the other.

Rulls used their knowledge to exterminate. Man tried for communication, and hoped for association. Both were ruthless, murderous, pitiless, in their methods. Outsiders sometimes had difficulty distinguishing one from the other.

But the difference in purpose was as great as the difference between black and white, the absence as compared to the presence of light.

There was only one trouble with the immediate situation. Now, that the Rull had food, he might develop a few plans of his own.

Jamieson returned to bed, and lay staring into the darkness. He did not underrate the resources of the Rull, but since he had decided to conduct an experiment, no chance must be considered too great.

He turned over finally, and slept the sleep of a man determined that things were working in his favor.

Morning. Jamieson put on his cold-proof clothes, and went out into the chilly dawn. Again, he savored the silence and the atmosphere of isolated grandeur. A strong wind was blowing from the east, and there was an iciness in it that stung his face. Snow? He wondered.

He forgot that. He had things to do on this morning of mornings. He would do them with his usual caution.

Paced by defensors and the mobile blaster, he headed for the mental screen. It stood in open high ground, where it would be visible from a dozen different hiding places, and so far as he could see it was undamaged. He tested the automatic mechanism, and for good measure ran the picture through one showing.

He had already tossed another can of food in the grass near the screen, and he was turning away when he thought: *That's odd. The metal framework looks as if it's been polished.*

He studied the phenomena in a de-energizing mirror, and saw that the metal had been varnished with a clear, varnishlike substance. He felt sick as he recognized it.

He decided in agony, *If the cue is not to fire at all, I won't do it. I'll fire even if the blaster turns on me.*

He scraped some of the "varnish" into a receptacle, and began his retreat to the lifeboat. He was thinking violently:

Where does he get all this stuff? That isn't part of the equipment of a survey craft.

The first deadly suspicion was on him, that what was happening was not just an accident. He was pondering the vast implications of that, narrow-eyed, when, off to one side, he saw the Rull.

For the first time, in his many days on the tableland, he saw the Rull.

What's the cue!

Memory of purpose came to the Rull shortly after he had eaten. It was dim at first, but it grew stronger.

It was not the only sensation of his returning energy.

His visual centers interpreted more light. The starlit tableland grew brighter, not as bright as it could be for him, by a very large percentage but the direction was up instead of down. It would never again be normal. Vision was in the mind, and that part of his mind no longer had the power of interpretation.

He felt unutterably fortunate that it was no worse.

He had been gliding along the edge of the precipice. Now, he paused to peer down. Even with his partial night vision, the view was breathtaking. There was distance below and distance afar. From a spaceship, the height was almost minimum. But gazing down that wall of gravel into those depths was a different experience. It emphasized how completely he had been caught by an accident. And it reminded him of what he had been doing before the hunger.

He turned instantly away from the cliff, and hurried to where the wreckage of his ship had gathered dust for days. Bent and twisted wreckage, half-buried in the hard ground of Laertes III. He glided over the dented plates inside to one in which he had the day before sensed a quiver of antigravity oscillation. Tiny, potent, tremendous minutiae of oscillation, capable of being influenced.

The Rull worked with intensity and purposefulness. The plate was still firmly attached to the frame of the ship. And the first

job, the heartbreakingly difficult job was to tear it completely free. The hours passed.

R-r-i-i-i-pp! The hard plate yielded to the slight rearrangement of its nucleonic structure. The shift was infinitesimal, partly because the directing nervous energy of his body was not at norm, and partly because it had better be infinitesimal. There was such a thing as releasing energy enough to blow up a mountain.

Not, he discovered finally, that there was danger in this plate. He found that out the moment he crawled onto it. The sensation of power that aura-ed out of it was so dim that, briefly, he doubted if it would lift from the ground.

But it did. The test run lasted seven feet, and gave him his measurement of the limited force he had available. Enough for an attack only.

He had no doubts in his mind. The experiment was over. His only purpose must be to kill the man, and the question was, how could he insure that the man did not kill him while he was doing it? The varnish!

He applied it painstakingly, dried it with a drier, and then, picking up the plate again, he carried it on his back to the hiding place he wanted. When he had buried it and himself under the dead leaves of a clump of brush, he grew calmer. He recognized that the veneer of his civilization was off. It shocked him, but he did not regret it.

In giving him the food, the two-legged being was obviously doing something to him. Something dangerous. The only answer to the entire problem of the experiment of the tableland was to deal death without delay.

He lay tense, ferocious, beyond the power of any vagrant thoughts, waiting for the man to come.

It looked as desperate a venture as Jamieson had seen in Service. Normally, he would have handled it effortlessly. But he was watching intently—*intently*—for the paralysis to strike him, the negation that was of the varnish.

And so, it was the unexpected normal quality that nearly ruined him. The Rull flew out of a clump of trees mounted on an antigravity plate. The surprise of that was so great that it almost succeeded. The plates had been drained of all such energies, according to his tests the first morning. Yet here was one

alive again and light again with the special antigravity lightness which Rull scientists had brought to the peak of perfection.

The action of movement through space toward him was, of course, based on the motion of the planet as it turned on its axis. The speed of the attack, starting as it did from zero, did not come near the eight hundred mile an hour velocity of the spinning planet, but it was swift enough.

The apparition of metal and six-foot worm charged at him through the air. And even as he drew his weapon and fired at it, he had a choice to make, a restraint to exercise: *Do not kill!*

That was hard, oh, hard. The necessity exercised his capacity for integration and imposed so stern a limitation that during the second it took him to adjust the Rull came to within ten feet of him.

What saved him was the pressure of the air on the metal plate. The air tilted it like a wing of a plane becoming airborne. At the bottom of that metal he fired his irresistible weapon, seared it, burned it, deflected it to a crash landing in a clump of bushes twenty feet to his right.

Jamieson was deliberately slow in following up his success. When he reached the bushes the Rull was fifty feet beyond it gliding on its multiple suckers over the top of a hillock. It disappeared into a clump of trees.

He did not pursue it or fire a second time. Instead he gingerly pulled the Rull antigravity plate out of the brush and examined it. The question was, how had the Rull de-gravitized it without the elaborate machinery necessary? And if it was capable of creating such a "parachute" for itself why hadn't it floated down to the forest land far below where food would be available and where it would be safe from its human enemy?

One question was answered the moment he lifted the plate. It was "normal" weight, its energy apparently exhausted after traveling less than a hundred feet. It had obviously never been capable of making the mile and a half trip to the forest and plain below.

Jamieson took no chances. He dropped the plate over the nearest precipice, and watched it fall into distance. He was back in the lifeboat, when he remembered the "varnish."

Why, there had been no cue, not yet.

He tested the scraping he had brought with him. Chemically,

it turned out to be a simple resin, used to make varnishes. Atomically, it was stabilized. Electronically, it transformed light into energy on the vibration level of human thought.

It was alive all right. But what was the recording?

Jamieson made a graph of every material and energy level, for comparison purposes. As soon as he had established that it had been altered on the electronic level—which had been obvious, but which, still, had to be proved—he recorded the images on a visiwire. The result was a hodgepodge of dreamlike fantasies.

Symbols. He took down his book, "Symbol Interpretations of the Unconscious," and found the cross reference: "Inhibitions, Mental."

On the referred page and line, he read: "Do not kill!"

"Well, I'll be—" Jamieson said aloud into the silence of the lifeboat interior. "That's what happened."

He was relieved, and then not so relieved. It had been his personal intention not to kill at this stage. But the Rull hadn't known that. By working such a subtle inhibition, it had dominated the attack even in defeat.

That was the trouble. So far he had got *out* of situations, but had created no successful ones in retaliation. He had a hope but that wasn't enough.

He must take no more risks. Even his final experiment must wait until the day the *Orion* was due to arrive.

Human beings were just a little too weak in certain directions. Their very life cells had impulses which could be stirred by the cunning and the remorseless.

He did not doubt that, in the final issue, the Rull would try to stir.

On the ninth night, the day before the *Orion* was due, Jamieson refrained from putting out a can of food. The following morning he spent half an hour at the radio, trying to contact the battleship. He made a point of broadcasting a detailed account of what had happened so far, and he described what his plans were, including his intention of testing the Rull to see if it had suffered any injury from its period of hunger.

Subspace was as silent as death. Not a single pulse of vibration answered his call.

He finally abandoned the attempt to establish contact, and

went outside. Swiftly, he set up the instruments he would need for his experiment. The tableland had the air of a deserted wilderness. He tested his equipment, then looked at his watch. It showed eleven minutes of noon. Suddenly jittery, he decided not to wait the extra minutes.

He walked over, hesitated, and then pressed a button. From a source near the screen, a rhythm on a very high energy level was being broadcast. It was a variation of the rhythm pattern to which the Rull had been subjected for four nights.

Slowly, Jamieson retreated toward the lifeboat. He wanted to try again to contact the *Orion*. Looking back, he saw the Rull glide into the clearing, and head straight for the source of the vibration.

As Jamieson paused involuntarily, fascinated, the main alarm system of the lifeboat went off with a roar. The sound echoed with an alien eeriness on the wings of the icy wind that was blowing, and it acted like a cue. His wrist radio snapped on, synchronizing automatically with the powerful radio in the lifeboat. A voice said urgently:

"Professor Jamieson, this is the battleship *Orion*. We heard your earlier calls but refrained from answering. An entire Rull fleet is cruising in the vicinity of the Laertes sun.

"In approximately five minutes, an attempt will be made to pick you up. Meanwhile—*drop everything.*"

Jamieson dropped. It was a physical movement, not a mental one. Out of the corner of one eye, even as he heard his own radio, he saw a movement in the sky. Two dark blobs, that resolved into vast shapes. There was a roar as the Rull super-battleships flashed by overhead. A cyclone followed their passage, that nearly tore him from the ground, where he clung desperately to the roots of intertwining brush.

At top speed, obviously traveling under gravitonic power, the enemy warships turned a sharp somersault, and came back toward the tableland. Expecting death, and beginning to realize some of the truth of the situation on the tableland, Jamieson quailed. But the fire flashed past him, not at him. The thunder of the shot rolled toward Jamieson, a colossal sound, that yet did not blot out his sense awareness of what had happened. His lifeboat. They had fired at his lifeboat.

He groaned as he pictured it destroyed in one burst of intol-

erable flame. And then, for a moment, there was no time for thought or anguish.

A third warship came into view, but, as Jamieson strained to make out its contours, it turned and fled. His wrist radio clicked on:

"Cannot help you now. Save yourself. Our four accompanying battleships and attendant squadrons will engage the Rull fleet, and try to draw them toward our great battle group cruising near the star, Bianca, and then re—"

A flash of vivid fire in the distant sky ended the message. It was a full minute before the cold air of Laertes III echoed to the remote thunder of the broadside. The sound died slowly, reluctantly, as if endless little overtones of it were clinging to each molecule of air.

The silence that settled finally was, strangely, not peaceful. But like the calm before a storm, a fateful, quiescent stillness, alive with unmeasurable threat.

Shakily, Jamieson climbed to his feet. It was time to assess the immediate danger that had befallen him. The greater danger he dared not even think about.

Jamieson headed first for his lifeboat. He didn't have to go all the way. The entire section of the cliff had been sheared away. Of the ship there was no sign.

It pulled him up short. He had expected it, but the shock of the reality was terrific.

He crouched like an animal, and stared up into the sky, into the menacing limits of the sky. It was empty of machines. Not a movement was there, not a sound came out of it, except the sound of the east wind. He was alone in a universe between heaven and earth, a mind poised at the edge of an abyss.

Into his mind, tensely waiting, pierced a sharp understanding. The Rull ships had flown once over the mountain to size up the situation on the tableland, and then had tried to destroy him.

Who was the Rull here with him, that super-battleships should roar down to insure that no danger remained for it on the tableland?

Well, they hadn't quite succeeded. Jamieson showed his teeth into the wind. Not quite. But he'd have to hurry. At any mo-

ment, they might risk one of their destroyers in a rescue landing.

As he ran, he felt himself one with the wind. He knew that feeling, that sense of returning primitiveness during moments of excitement. It was like that in battles, and the important thing was to yield one's whole body and soul to it. There was no such thing as fighting efficiently with half your mind or half your body. All, all, was demanded.

He expected falls, and he had them. Each time he got up, almost unconscious of the pain, and ran on again. He arrived bleeding—but he arrived.

The sky was silent.

From the shelter of a line of brush, he peered at the Rull.

The captive Rull, *his* Rull to do with as he pleased. To watch, to force, to educate—the fastest education in the history of the world. There wasn't any time for a leisurely exchange of information.

From where he lay, he manipulated the controls of the screen.

The Rull had been moving back and forth in front of the screen. Now, it speeded up, then slowed, then speeded up again, according to his will.

Some thousands of years before, in the Twentieth Century, the classic and timeless investigation had been made of which this was one end result. A man called Pavlov fed a laboratory dog at regular intervals, to the accompaniment of the ringing of a bell. Soon, the dog's digestive system responded as readily to the ringing of the bell without the food as to the food and the bell together.

Pavlov himself never did realize the most important reality behind his conditioning process. But what began on that remote day ended with a science that could control animals and aliens —and men—almost at will. Only the Rulls baffled the master experimenters in the later centuries when it was an exact science. Defeated by the will to death of all Rull captives, the scientists foresaw the doom of Earth's galactic empire unless some beginning could be made in penetrating the minds of Rulls.

It was his desperate bad luck that he had no time for real penetrations.

There was death here for those who lingered.

But even what he had to do, the bare minimum of what he

had to do, would take precious time. Back and forth, back and forth; the rhythm of obedience had to be established.

The image of the Rull on the screen was as lifelike as the original. It was three dimensional, and its movements were like an automaton. The challenger was actually irresistible. Basic nerve centers were affected. The Rull could no more help falling into step than it could resist the call of the food impulse.

After it had followed that mindless pattern for fifteen minutes, changing pace at his direction, Jamieson started the Rull and its image climbing trees. Up, then down again, half a dozen times. At that point, Jamieson introduced an image of himself.

Tensely, with one eye on the sky and one on the scene before him, he watched the reactions of the Rull—watched them with narrowed eyes and a sharp understanding of Rull responses to the presence of human beings. Rulls were digestively stimulated by the odor of man. It showed in the way their suckers opened and closed. When a few minutes later, he substituted himself for his image, he was satisfied that this Rull had temporarily lost its normal automatic hunger when it saw a human being.

And now that he had reached the stage of final control, he hesitated. It was time to make his tests. Could he afford the time?

He realized that he had to. This opportunity might not occur again in a hundred years.

When he finished the tests twenty-five minutes later, he was pale with excitement. He thought: *This is it. We've got it.*

He spent ten precious minutes broadcasting his discovery by means of his wrist radio—hoping that the transmitter on his lifeboat had survived its fall down the mountain, and was picking up the thready message of the smaller instrument, and sending it out through subspace.

During the entire ten minutes, there was not a single answer to his call.

Aware that he had done what he could, Jamieson headed for the cliff's edge he had selected as a starting point. He looked down, and shuddered, then remembered what the *Orion* had said: "An entire Rull fleet cruising—"

Hurry!

He lowered the Rull to the first ledge. A moment later he fastened the harness around his own body, and stepped into space. Sedately, with easy strength, the Rull gripped the other end of the rope, and lowered him down to the ledge beside it.

They continued on down and down. It was hard work although they used a very simple system.

A long plastic "rope" spanned the spaces for them. A metal "climbing" rod, used to scale the smooth vastness of a spaceship's side, held position after position while the rope did its work.

On each ledge, Jamieson burned the rod at a downward slant into solid rock. The rope slid through an arrangement of pulleys in the metal as the Rull and he, in turn, lowered each other to ledges farther down.

The moment they were both safely in the clear of one ledge, Jamieson would explode the rod out of the rock, and it would drop down ready for use again.

The day sank towards darkness like a restless man into sleep, slowly, wearily. Jamieson grew hot and tired, and filled with the melancholy of the fatigue that dragged at his muscles.

He could see that the Rull was growing more aware of him. It still co-operated, but it watched him with intent eyes each time it swung him down.

The conditioned state was ending. The Rull was emerging from its trance. The process should complete before night.

There was a time, then, when Jamieson despaired of ever getting down before the shadows fell. He had chosen the western, sunny side for that fantastic descent down a black-brown cliff the like of which did not exist elsewhere in the known worlds of space. He found himself watching the Rull with quick, nervous glances. When it swung him down onto a ledge beside it, he watched its blue eyes, its staring blue eyes, come closer and closer to him, and then as his legs swung below the level of those strange eyes, they twisted to follow him.

The intent eyes of the other reminded Jamieson of his discovery. He felt a fury at himself that he had never reasoned it out before. For centuries man had known that his own effort to see clearly required a good twenty-five per cent of the energy

of his whole body. Human scientists should have guessed that the vast wave compass of Rull eyes was the product of a balancing of glandular activity on a fantastically high energy level. A balancing which, if disturbed, would surely affect the mind itself either temporarily or permanently.

He had discovered that the impairment was permanent.

What would a prolonged period of starvation diet do to such a nervous system?

The possibilities altered the nature of the war. It explained why Rull ships had never attacked human food sources or supply lines; they didn't want to risk retaliation. It explained why Rull ships fought so remorselessly against Earth ships that intruded into their sectors of the galaxy. It explained their ruthless destruction of other races. They lived in terror that their terrible weakness would be found out.

Jamieson smiled with a savage anticipation. If his message had got through, or if he escaped, Rulls would soon feel the pinch of hunger. Earth ships would concentrate on that one basic form of attack in the future. The food supplies of entire planetary groups would be poisoned, convoys would be raided without regard for casualties. Everywhere at once the attack would be pressed without let-up and without mercy.

It shouldn't be long before the Rull began his retreat to his own galaxy. That was the only solution that would be acceptable. The invader must be driven back and back, forced to give up his conquests of a thousand years.

4:00 p.m. Jamieson had to pause again for a rest. He walked to the side of the ledge away from the Rull, and sank down on the rock. The sky was a brassy blue, silent and windless now, a curtain drawn across the black space above, concealing what must already be the greatest Rull-human battle in ten years.

It was a tribute to the five Earth battleships and their escort that no Rull ship had yet attempted to rescue the Rull on the tableland.

Possibly, of course, they didn't want to give away the presence of one of their own kind.

Jamieson gave up the futile speculation. Wearily, he compared the height of the cliff above with the depth that remained below. He estimated they had come two-thirds of the distance.

He saw that the Rull was staring out over the valley. Jamieson turned and gazed with it.

The scene which they took in with their different eyes and different brains was fairly drab and very familiar, yet withal strange and wonderful. The forest began a quarter of a mile from the bottom of the cliff, and it almost literally had no end. It rolled up over the hills and down into the shallow valleys. It faltered at the edge of a broad river, then billowed out again, and climbed the slopes of mountains that sprawled mistily in distance.

His watch showed 4:15. Time to get going again.

At twenty-five minutes after six, they reached a ledge a hundred and fifty feet above the uneven plain. The distance strained the capacity of the rope, but the initial operation of lowering the Rull to freedom and safety was achieved without incident. Jamieson gazed down curiously at the worm. What would it do now that it was in the clear?

It looked up at him and waited.

That made him grim. Because this was a chance he was not taking. Jamieson waved imperatively at the Rull, and took out his blaster. The Rull backed away, but only into the safety of a gigantic rock. Blood-red, the sun was sinking behind the mountains. Darkness moved over the land. Jamieson ate his dinner. It was as he was finishing it that he saw a movement below.

He watched, as the Rull glided along close to the edge of the precipice.

It disappeared beyond an outjut of the cliff.

Jamieson waited briefly, then swung out on the rope. The descent drained his strength, but there was solid ground at the bottom. Three quarters of the way down, he cut his finger on a section of the rope that was unexpectedly rough.

When he reached the ground, he noticed that his finger was turning an odd gray. In the dimness, it looked strange and unhealthy.

As Jamieson stared at it, the color drained from his face. He thought in a bitter anger: *The Rull must have smeared it on the rope on his way down.*

A pang went through his body. It was knife sharp, and it was followed instantly by a stiffness. With a gasp, he grabbed at his

blaster, to kill himself. His hand froze in midair. He fell to the ground. The stiffness held him there, froze him there, moveless.

The will to death is in all life. Every organic cell ecphorizes the inherited engrams of its inorganic origin. The pulse of life is a squamous film superimposed on an underlying matter so intricate in its delicate balancing of different energies that life itself is but a brief, vain straining against that balance.

For an instant of eternity, a pattern is attempted. It takes many forms, but these are apparent. The real shape is always a time and not a space shape. And that shape is a curve. Up and then down. Up from the darkness into the light, then down again into the blackness.

The male salmon sprays his mist of milt onto the eggs of the female. And instantly he is seized with a mortal melancholy. The male bee collapses from the embrace of the queen he has won, back into that inorganic mold from which he climbed for one single moment of ecstasy. In man, the fateful pattern is repressed into quadrillions of individual cells.

But the pattern is there. Waiting.

Long before, the sharp-minded Rull scientists, probing for chemical substances that would shock man's system into its primitive forms, found the special secret of man's will to death.

The *yeli*, Meeesh, gliding back towards Jamieson did not think of the process. He had been waiting for the opportunity. It had occurred. He was intent on his own purposes.

Briskly, he removed the man's blaster, then he searched for the key to the lifeboat. And then he carried Jamieson a quarter of a mile around the base of the cliff to where the man's ship had been catapulted by the blast from the Rull warship.

Five minutes later, the powerful radio inside was broadcasting on Rull wave lengths, an imperative command to the Rull fleet.

Dimness. Inside and outside his skin. He felt himself at the bottom of a well, peering out of night into twilight. As he lay, a pressure of something swelled around him, lifted him higher and higher, and nearer to the mouth of the well.

He struggled the last few feet, a distinct mental effort, and looked over the edge. Consciousness.

He was lying on a raised table inside a room which had sev-

eral large mouselike openings at the floor level, openings that led to other chambers. Doors, he identified, odd-shaped, alien, unhuman. Jamieson cringed with the stunning shock of recognition.

He was inside a Rull warship.

There was a slithering of movement behind him. He turned his head, and rolled his eyes in their sockets.

In the shadows, three Rulls were gliding across the floor towards a bank of instruments that reared up behind and to one side of him. They pirouetted up an inclined plane and poised above him. Their pale eyes, shiny in the dusk of that unnatural chamber, peered down at him.

Jamieson tried to move. His body writhed in the confines of the bonds that held him. That brought a sharp remembrance of the death-will chemical that the Rull had used. Relief came surging. He was not dead. *Not dead.* NOT DEAD. The Rull must have helped him, forced him to move, and so had broken the downward curve of his descent to dust.

He was alive—for what?

The thought slowed his joy. His hope snuffed out like a flame. His brain froze into a tensed, terrible mask of anticipation.

As he watched with staring eyes, expecting pain, one of the Rulls pressed a button. Part of the table on which Jamieson was lying, lifted. He was raised to a sitting position.

What now?

He couldn't see the Rulls. He tried to turn, but two head shields clamped into the side of his head, and held him firmly.

He saw that there was a square of silvery sheen on the wall which he faced. A light sprang onto it, and then a picture. It was a curiously familiar picture, but at first because there was a reversal of position Jamieson couldn't place the familiarity.

Abruptly, he realized.

It was a twisted version of the picture that he had shown the Rull, first when he was feeding it, and then with more weighty arguments after he discovered the vulnerability of man's mortal enemy.

He had shown how the Rull race would be destroyed unless it agreed to peace.

In the picture he was being shown it was the Rull that urged co-operation between the two races. They seemed unaware that

he had not yet definitely transmitted his knowledge to other human beings. Or perhaps that fact was blurred by the conditioning he had given to the Rull when he fed it and controlled it.

As he glared at the screen, the picture ended—and then started again. By the time it had finished a second time, there was no doubt. Jamieson collapsed back against the table. They would not show him such a picture unless he was to be used as a messenger.

He would be returned home to carry the message that man had wanted to hear for a thousand years. He would also carry the information that would give meaning to the offer.

The Rull-human war was over.

The Double-Dyed Villains

BY POUL ANDERSON

THE PREMIER OF LUAN was speaking, and over the planet his face glared into telescreens and his voice rang its anger. Before the Administration Building milled a crowd that screamed itself hoarse before the enormously magnified image on the wall, screamed and cheered and surged like a living wave against the tight-held lines of the Palanthian Guard. There was mob violence in the air, a dog would have bristled at the stink of adrenalin and sensed the tension which crackled under the waves of explosive sound. The tautness seemed somehow to be transmitted over the screens, and watchers on the other side of the world raved at the image.

The Premier was young and dynamic and utterly sure of himself. There was steel in his tones, and his hard handsome face was vibrant with a deep inward strength. He was, thought Wing Alak, quite a superior type.

In spite of being in the capital of the planet, Alak preferred sitting alone in his hotel room and watching the telescreen to joining the mob that yelled its hosannahs in the streets. He sat back with a drink in one hand and a cigarette in the other, physically relaxed as the speech shouted at him:

". . . not only a matter of material gain, but of sacred Luanian honor. Lhing was ours, ours by right of our own blood and sweat and treasure, and the incredible betrayal of the League in giving it to Marhal as a political bribe shall not be permitted to succeed. We will fight for our rights and honor—if need be, we will fight the Patrol itself—fight and win!"

The cheers rose fifty stories to rattle the windows of Alak's room. Overhead rushed a squadron of navy speedsters, their gravitic drives noiseless but the thunder of cloven air rolling in their wake, and each of them carried bombs which could wipe out a city. Alak's thoughts turned to a more potent menace, the monster cruisers and battleships orbiting about Luan—yes, the situation was getting out of hand. He wondered, suddenly and grimly, if it might not have gone too far to be remedied.

". . . we will not fight alone. The whole Galaxy waits only one bold leader to rise and throw off the yoke of the League. For four hundred years we have groaned under the most corrupt and cynical tyranny ever to rise in all man's tortured history. The League government remains in power only by such an unbelievable network of intrigue, bribery, threat, terror, betrayal, and appeal to all the worst elements of society that the like has never before been imagined. This is not mere oratory, people of Luan, it is sober truth which we have slowly and painfully learned over generations. Your government has carefully compiled a list of corrupt and terroristic acts of the Patrol which include every violation of every moral law existing on every planet in the universe, and each of these accusations has been verified in every detail. The Marhalian thievery is a minor matter in that list—but Luan has had enough!"

Wing Alak puffed on his cigarette in nervous breaths. It was, he reflected bleakly, not exaggerated more than political oratory required, and the anger of Luan's Tranis Voal had its counterpart on more planets than he cared to think about.

The speech paused for cheers, and the door chime sounded in Alak's room. He turned in his seat, scowling, to face the view-

plate. It showed him a hard, unfamiliar face, and his hand stole toward his tunic pocket. Then he thought: *No, you fool! Force is the most useless possible course—here!*

He rose, pressing the admittance button, and he felt his spine crawl as four men entered. They were obviously secret agents—only what did police want with a harmless commercial traveler from Maxlan IV?

"Wing Alak of Sol III," declared one of the men, "you are under arrest for conspiracy against the state."

"There . . . must be some mistake." Alak licked his lips with just the right amount of nervousness, but his stomach was turning over with the magnitude of this catastrophe. "I am Gol Duhonitar of Maxlan IV—here, my papers."

The detective took them and put them in a pocket. "Forged identity papers are important evidence," he said tonelessly.

"I tell you, they're genuine, you can see the Patrol stamp and the League secretary for Maxlan has his signature—"

"Sure. Doesn't prove a thing. Search him, Gammal."

Voal's voice roared from the telescreen: "As of today, Luan has officially seceded from the Galactic League, and war has been declared on Marhal. And let the Patrol's criminals dare try to stop us!"

Thokan looked across the table at his visitor, and then back at the notes heaped before him. "Just what does this mean?" he asked slowly.

The newcomer, a Sirian like himself, shrugged. "Let's not waste time," he said. "You want to win the coming system-wide election. Here are fifty thousand League credits, good anywhere in the civilized Galaxy, as a retainer. There are a million more waiting if you lose."

Thokan half rose, then settled back. His tendrils hung limply. "Lose?" he whispered.

"Yes. We don't want you as Director of this system. But we have nothing against you personally, and would rather pay you to conduct a losing campaign than spend even more money corrupting the electorate and otherwise fighting you. If you really try, you can win an honest election. But we are determined that Ruhoc shall continue as Director, and, to put it melodramatically, we will stop at nothing to insure your defeat."

Strickenly, Thokan looked into the visitor's bleak eyes: "But you said you were from the Patrol!"

"I am."

"The Patrol—" Thokan's voice rose. "But Cosmos! The Patrol is the law-enforcement agency of the *League!*"

"That's right. And, friend, you don't know what a really dirty campaign is like till you've seen the Patrol in action. However, we don't want to ruin your reputation and your private business and the honesty of a lot of officials connected with elections. We would much prefer simply to pay you to stop campaigning so effectively."

"But— Oh, no— But *why?*"

"You are an honest being, too honest and too set in your views—including a belief in the League constitution's clause that the Patrol should stay out of local politics—for us. Ruhoc is a scoundrel, yes, but he is open to suggestions if they are, shall I say, subsidized. Also, under him the present corruption and hopeless inefficiency of the Sirian military forces will continue."

"I know—it's one of the major points in my campaign— Cosmos, you race-traitor, do you want the Centaurians simply to come in and take us over?" Thokan snarled into the Patrolman's impassive face. "Have they bribed the Patrol? Do they really run the League? You incredible villain, I—"

"You have your choice." The voice was pitiless. "Think it over. My orders are simply to spend what is necessary to win Ruhoc the election. How I spend it is a matter of indifference to me."

As the policeman approached him, Alak drew a deep breath and let one hand, hanging by his side, squeeze the bulb in that tunic pocket. The situation was suddenly desperate, and his act was of ultimate emergency.

The sphere of brain-stunning supersonic vibrations emitted by the bulb was so heterodyned that most of Alak's body, including his head, was not affected. But otherwise it had a range of some meters, and the detective dropped as if poleaxed. They'd be out for some minutes, but there was no time to lose, not an instant of the fleeing seconds. Alak grabbed his cloak, reversing it to show a dark blue color quite unlike the gray he had been

seen wearing. He put its cowl over his red hair, shading his thin sharp features, and went out the door. The change should help some when his description was broadcast. It had better help, he thought grimly. He was the only Patrolman on a planet that had just proclaimed its intentions of killing Patrolmen on sight.

Hurry, hurry!

He went down the nearest gravity shaft and out the lobby into the street. Voal's speech had just ended, and the crowds were howling themselves hoarse. Alak mingled with them. Luan having been colonized largely by Baltravians, who in turn were descendants of Terrestrials, he was physically inconspicuous, but his Solarian accent was not healthy at the moment. Sol was notoriously the instigator and leader of the Galactic League.

The street telescreens were showing a parade of the Palanthian Guard, rank upon brilliantly uniformed rank of the system's crack troops, and the brassy rhythm of their bands pulsed in the veins and shrieked in the head. *Beat, beat, beat,* yelling bugles and rolling drums and the heart-stopping slam of a thousand boots landing simultaneously on the pavement. Swing and crash and tramp, aircraft snarling overhead with their sides afire in the sun, banners flying and trumpets roaring and the long wild charge of heroes to vengeance and glory. All Luan went crazy and shouted for blood.

Alak reflected tautly that the danger to Marhal was no less threatening other systems. The Luanian battle fleet could get to Sol, say, in three weeks, and if Voal suspected just how strong the Patrol really was—or wasn't—

Alak had seen the dead planets swinging on their lonely way. Their seas mourned on ashen beaches, and the ash blew inland on whining winds, in over the dusty plains. Their suns were a dim angry copper-red, smoldering in skies of scudding dust and ash. Only the wind and the dust stirred, only the empty heavens and the barren seas had voice. At night there might still be an evil blue glow of radioactivity, roiling in the ash storms or glimmering out of the fused craters. Here and there the wind might briefly uncover crumbling skeletons of once sentient creatures, with only dust now stirring in their hollow skulls, with the storms piping through their ribs. A few snags of broken buildings still stood, and now and then there were acid rains sluicing

out of the birdless skies. But no life stirred anywhere. War had passed by, and returned to the remotely shining stars.

He made his way through the jammed avenue into a quieter side street. Any moment, now, he could expect the hunt to start. He went with careful casualness over to a parked private car, a fast little ground-air job. He had a Patrol key, which would open any ordinary magnetolock, and with it he let himself into the vehicle and got started. Car stealing was a minor offense compared to what he was wanted for.

As he drove, he scowled in thought. That Voal's police had known him for what he was indicated that the leader's interests and spy system reached well beyond the local stars. He must have agents on Maxlan IV, which lay seventy light-years from Luan's sun. If he had known the name of the Patrol's agent, it would indicate that he knew a lot more about the Patrol itself, and this supposition was supported by Voal's mention of fully verified cases of League perfidy. Though it was no secret that the Patrol used corrupt methods, the details were carefully suppressed wherever possible.

What was more to the immediate point, the police must have followed all Alak's movements. So now his underworld contacts must be arrested, leaving Alak stranded and alone on Luan. And a League agent who had associated himself with some of the worst crooks on the planet could expect no particular mercy.

Headquarters underestimated the danger, thought Alak. *They took this to be just another obscure squabble between frontier systems, and now Luan turns out to be a highly organized, magnificently armed power spoiling for a fight. I suppose slip-ups are bound to occur in trying to co-ordinate a million stars, and this is one of the mistakes—and I'm in the middle of it.*

He drove aimlessly, trying to collect his thoughts. Six weeks of careful work in the Luanian underworld were shot. His bribes and promises had been getting a program of sabotage under way which should have thrown plenty of sand in the gears of the war machine. He was on the point of contacting ambitious officers who were ready to overthrow the elected government and establish their own dictatorship—one amenable to the Patrol as long as it had free access to the public treasury. Only—Cosmos, he'd been finding it too easy! The police had been stringing him

along, giving him enough rope to hang himself several times over, and now—

Wing Alak licked his lips. A lot of Patrolmen got killed on the job, and it looked as if he would be another name on the list, and he personally much preferred being a live coward to a dead hero. He did not have a single lethal weapon, and he was alone on a planet out to get him. It didn't look good.

The hall was old, a long dim structure of gray stone, where only the leaping ruddy flames broke the chill dusk and where the hollow echoes were like voices of the dead centuries which had stirred bloodily here. Many a council had been held in the great chamber, the results being announced with screaming war-horns and the clash of arms and armor, but perhaps none so dark as the secret meeting tonight.

The twelve earls of Mordh were seated at the head of the huge ancient table. Red firelight seemed to splash them with blood, throwing their grim bony faces into eerie visibility against the sliding misshapen shadows. Outside the windows, the mighty autumn wind flung sleet and rain at the castle walls and roared about its towers.

Dorlok, who had called the meeting, spoke first. His deep voice was low, and the storm snarled over and around its rumble: "To me, at least, the situation has become intolerable. When so-called honor clashes with basic instincts—and just how much honor does our dead king have left?—there is only one choice if we wish to remain sane. The king must go."

Yorm sprang out of his seat. The light gleamed bloodily on his slitted yellow eyes. Three of his fists were clenched, the fourth half drew his dagger from its sheath. "Treason!" he gasped.

"As you like." Dorlok's scarred face twisted in a snarl. "Yet I would say that we have a higher duty than our oath to the king. As earls of Mordh, which now rules the entire planet and thus our entire species, we are pledged to preserve the integrity of our race and traditions. This the king, corrupted by the she-devil Franna, has lost. He is no longer a warrior, he is a drinker and idler in his palace—the swords of Mordh rust, the people cry for battle, and *he* sits under the complete dominion of his mistress.

This won't be the first time a king has been deposed—and we will be driving her off the throne rather than him."

More than half of the earls nodded their heads in dark agreement. Valtan murmured: "I wonder if she is of this planet at all? Could she not be some devilish robot invented by the Patrol's unholy agents? Her very nature is alien to all we know."

"No, no, my agents have checked very carefully on her background," said Dorlok. "She is the daughter of a Mordhan spaceman who sold her on Sol III after he had run up a great gambling debt—sold her to a man of the very Patrol which seeks to destroy slavery, or says it does! Franna was educated in the Solar System, apparently with the ultimate object of becoming the king's mistress. I have reason to believe plastic surgery was used to make her the most beautiful of our race, and certainly her education in the arts of love— At any rate, she did come back here, enslaved the king, and now for ten years has run the country—the planet—the system! And—undoubtedly on behalf of the cursed Patrol!"

"It was an evil day that the Galactic explorers landed here," said Valtan glumly.

"To date, yes," answered Yorm. "Of course, it was more or less accidental. If they had known we are a carnivorous people to whom combat is a psychological necessity, they would probably have left us in our feudal state. As it was, the introduction of Galactic technology soon enabled Mordh to subjugate the rest of the planet." His yellow eyes flamed. "And now . . . now we could go out and fight on a more glorious scale than the old heroes dreamed . . . go out conquering among the stars!"

"Except that Franna holds the king slothful while we eat our hearts in tameness and kill ourselves in silly little private duels for lack of better occupation," said Valtan. "But we are sworn by our honor to obey the king. What to do? What to do?"

"Kill her," snarled another.

"Little use—the king would know who had done that, and have us all slain—and soon the Patrol would find some other agent of control," said Dorlok. "No, the king must go, too."

Yorm shook his head. "I won't do it. No one in my family ever broke his word and I won't be the first."

"It is a hard choice—" mused Valtan.

In the end, seven of the great earls of Mordh were prepared to assassinate the king. The others held back, but Dorlok had, before calling the meeting, sworn them to secrecy about it. They would not help in the killing, but they would not hinder it and be glad enough to see it done.

Dorlok swept his cloak about him. "I'll let you know my arrangements tomorrow," he said.

He went to a certain remote room in the castle and let himself in with a special key. *She* was waiting, and his heart turned over at her loveliness.

"Well?" she asked.

His voice was thick as he gave her the names of the rebellious earls. She nodded gravely. "I'll see that they are arrested tonight," she said. "They'll have their choice—exile to the second planet or suicide."

Dorlok sat down, burying his head in two brawny hands, the other two hanging limp in his lap. "Now I'm forever damned," he groaned. "I really, deep inside, believe in what I told them when I was provoking them. Those 'weak links' were actually the hope of Mordh. And I've sold them—for you." He lifted desperate eyes. "And I'm even betraying my lord the king, with you," he said hopelessly. "I love you—and I curse the day I saw you."

Franna stroked his mane. "Poor Dorlok," she murmured softly. "Poor, helpless, honest warrior."

Alak abandoned his car in an alley near the spaceport and set out on foot through the dark tangle of narrow streets and passageways which was the Old City. The decayed district clustered on the west side of the port and its warehouses, and had become the hangout of most of the city's criminal elements. It was not wise to go alone after dark through its dreary huddle, and twilight was beginning to creep over the capital. But Alak had no choice—and he had become used to such thieves' quarters.

Presently he located Yamen's tavern and slipped cautiously past the photoelectric doors. The place was crowded as usual with the sweepings of space, including a good many nonhumans from remote planets, and he was grateful for the dim light and the fog of smoke. There was a live show performing on a tiny

stage, but even its nudity was no recommendation and Alak did not regret having to sit with his back to it in order to watch the door. He sat at a small table in a dark corner and slipped a coin in the vendor for beer. When it arrived from the chute it was warm and thin, but it was at least alcoholic. He sipped it and sat gloomily waiting for something to happen.

That didn't take long. A Rassalan slithered into the chair opposite him. The reptile's beadily glittering eyes searched under the man's cowl. "Hello," he said. "You might buy me a drink. Wouldn't snub an old friend, would you?"

"Hardly, when the old friend would let out a squawk as to my identity if I did," said Alak wryly. He set the vendor for the acrid and ultimately poisonous vurzin to which he knew the Rassalan was addicted, and put in the coin. "How are things, Slinh?" he asked.

"So-so." The little dragonlike creature shrugged his leathery wings. "But the sivva-peddling racket is getting unsafe. Voal's narcotics squad is cracking down. I can't complain—made my share on this planet—but I'm about to leave Luan." His black passionless eyes studied Alak's foxy face. "I suppose you are, too."

"Why so?" asked the Solarian cautiously.

"Look, Sarb Duman—I might as well stick to the alias you've been giving around here, though the police have been broadcasting a certain other name for the past half hour or more—let's be sensible. When an unknown with apparently limitless resources starts organizing the crooks of a planet for something big whose nature he won't reveal exactly, a being who's seen something of the Galaxy begins to have suspicions. When the police suddenly pick up all this stranger's contacts and start televising 'Wanted' notices for him with a different name and occupation appended —well, any high-grade moron can guess the story." Slinh sipped his drink, adding smugly, "I consider myself a step above moron. Seems I have just now heard rumors of arrests in the army, too. Seems there has been a revolutionary tendency— Could the mysterious stranger have any connection?"

"Could be," said Alak. He didn't inquire into the nature of the so quickly spreading rumors, or how they had got started. Someday the Patrol must investigate the evidence hinting at

some race in the Galaxy which had not chosen to reveal its telepathic abilities but to use them instead for private advantage. At the moment there was more urgent business.

"I might have a little trouble leaving this planet," said Alak. "You might, too."

"I can always find a hiding place and go into hibernation for a few years till they forget about me," said Slinh. "But a human at large might have difficulties even staying alive. I doubt if any Luanian crooks would help a"—he lowered his hissing voice—"Patrolman now that there's a war on. In such times, the mob hysteria officially known as patriotism infects all classes of society."

"True. But illogical. Patrolmen are more tolerant toward lawbreakers than local police."

Slinh shook his scaly head in some bewilderment. "I never could figure out the Patrol," he said. "Even its members of my own race I can't understand. Officially it exists to co-ordinate the systems of the Galactic League and to enforce the laws of the central authority. But after a while I quit paying attention to the stories of fabulous raids and arrests by Patrolmen and began watching for myself and speaking to eyewitnesses. And y'know, I have not been able to verify one case of the Patrol acting directly against a crook. The best they ever do is give the local police some technical advice, and that's rare. I'm beginning to suspect that the stories of the huge Patrol battle fleet are deliberate lies and the stereographs of it fakes—that though the Patrol makes big claims, it's never yet really arrested a criminal. In fact"—Slinh's claws tightened about his glass—"it seems one of the most corrupt organizations in the Galaxy. Voal's speech today was—true! I know of more cases where it's made alliance with crooks, or supported crooked governments, or engaged in crooked political deals, that I could easily count. Like in this case here—first the Patrol, on the feeblest 'right of discovery' excuse, awards Lhing to the Marhalian System—Lhing, that was a Luanian development from the first—and then it seeks to overthrow the democratically elected Luanian government and set up some kind of revolutionary junta that's sure to empty the public coffers before running for a distant planet. I don't blame Luan for seceding from the League!"

"You could turn me in," said Alak. "There must be a reward."

"Not I," said Slinh. He grinned evilly. "The police don't approve of sivva or those who sell it. Also, what's Luan to me? They could blow up the planet for all I care—once I'm off it. And finally—it's barely possible we could make a deal."

Alak ordered another beer and vurzin. "Pray continue," he said. "You interest me strangely."

Despite his purpose, despite the knowledge he had and the implacable hostility which seethed within him, Sharr felt a stirring of awe as he entered the cathedral. The long nave loomed before him, a dusky immensity lit with the wonderful chromatic sunlight that streamed through the stained-glass windows; the vaulted ceiling was lost in a twilight of height through which fluttered white birds like living benedictions; the heavy languor of incense was in the cool dark air, and music breathed invisible beauty about him from—somewhere. Here, he thought, was peace and security, rest for the weary and hope for the grieving—

Aye, the peace and security of death, the resting from duty, and a false cold-bloodedly manufactured hope which destroyed souls. The magnificent shell of the cathedral covered a cosmic rottenness that—

The archbishop stood waiting for him near the great altar, resplendent in the dazzling robes of the new church. He was of this planet, Crios, but tall and impressive, with the cold wisdom of the Galaxy behind his eyes—the upper clergy of the new god were all Crians educated on League planets. Sharr was acutely conscious of his own shabby dress and his own ignorance of the cynical science that made miracles to order. No wonder all Crios was turning from the old faith to this lying devil who called himself a new god.

"Greeting, my son," said the archbishop sonorously. "I was told by my angel you were coming hither and—"

"I am not your son," said Sharr flatly, "and I happen to know that your 'angel' is a creature from the stars who has to live in a tank but has the unholy power to read men's thoughts—"

"That is blasphemy," said the archbishop mildly, "but since you have been misled all your life, even to the extent of becoming a high priest of the false god, you will be forgiven this time."

"Oh, I know your artificial thunderbolts—you must have

some, all your other miracles are artificial—could smite me where I stand," said Sharr wearily. "No matter. My knowledge will not die with me."

The archbishop's eyes narrowed. Sharr hurried on: "When the strangers first came from beyond the stars, they brought a great hope to Crios. They cured us of many ancient ills, they gave us machines which produced more abundantly than slaves ever could . . . oh, yes, all the nations of Crios were glad to unify and join their Galactic League as a whole planet. But now I see all this was but the mask of the Evil Ones."

"In what way?" asked the other. "Before, there was only one faith on Crios. Now all gods can compete equally. If the stronger—that is, the truer—gods drive the weaker from the hearts of the people, what harm? Rather it is good. If your god is true, let him produce miracles such as ours."

"Let us not mince words," said Sharr. "There is no one here but us. All Crios rejoiced at the possession of spaceships, for now we could bring the true faith to other worlds, saving countless souls from the Evil Ones. But no sooner had we begun organizing a great crusade than *you* appeared—and your sly words and your false miracles and your machine-made magnificence turn more and more Crian hearts to the god in which you yourselves do not believe."

"How do you know we don't?"

"Few Crians have been to space, and most of those who went have returned as traitors like yourself," said Sharr. "*I* went to see what power this Galactic lord of yours has elsewhere. I had my own ship and I used my own eyes. I saw that no other world had ever heard of him. I saw machines doing the same sort of things which you do here, seemingly by the power of your god, to impress the ignorant—building your churches overnight, scattering gold from nowhere, turning one metal into another; I saw creatures of horrible aspect which read minds— Oh, I began to see what your god really was. When I came back, I did a little investigation, I had my spies here and there—I know you for the cold-blooded liars you are."

"Why should we lie? What is the point in preaching a false religion?"

"Power, glory— I can think of many reasons, but my personal belief is that you are agents of the Evil Ones, sent to destroy the

great Crian crusade before it got started. Had all of this planet been pure in faith, the All-Father would have aided us and we would have swept the Galaxy before us into his fold—now we must first get rid of the false Galactic lord and then slowly, by prayer and repentance, win back our worthiness."

The archbishop smiled, a curiously chilling smile. "And how will you go about it?" he asked softly.

"I have taken care that all priests of the true faith know what I do," said Sharr. "It won't help you to kill me. We will tell the truth to the people. We have prepared machines which will duplicate a number of your miracles." Sharr lifted a clenched fist and his voice shook with triumph: "I came, really, to warn you —if you're wise, you will leave this planet at once!"

The expected dismay did not appear. The archbishop said calmly and implacably: "You might be better off doing that. Surely you don't think we didn't foresee this?"

With a sense of dawning horror, Sharr stood in the singing gloom while the white birds circled far overhead. He heard the steady, relentless voice continue:

"I doubt if your machines will work. You never heard of an inhibitor field, but we have our projectors ready to generate one over the whole planet if need be. But it will not stop certain other devices we have had in preparation. If you blaspheme against the Galactic lord, major miracles will be in order. The lord himself might appear, ten kilometers tall with lightning blazing around him. Can your god do that?"

"Then"—Sharr spoke out of a dry, constricted throat—"you admit it is true—?"

"If you like," said the archbishop cheerfully. "But try to get anyone to believe that."

Slinh had a room—more accurately, a den—in one of the old abandoned sewers under the city. The little stony niche was dank and slimy and vile-smelling, but it was at least fairly safe from the police who were rounding up all aliens. Wing Alak sat hunched on the floor and cursed the day he was born.

"This hideout may be saving my life," he grumbled, "but I wonder if life is worth saving on such terms."

The little reptile coiled before him leered complacently. "It's all I can offer the great Patrolman," he gibed. His eyes glistened

in the dim glow of the radiant heater that was his sole article of furniture. "If you don't like it—"

"Never mind, never mind." Alak tried to get down another mouthful of the fishy mess the Rassalan called food, but decided it involved too great a risk of losing what he already had eaten. "Now about this deal you offered to make—we have to act fast. Already we're too late to prevent the war, but it'll take the Luanian battle fleet a few days to get started for Marhal, or the Marhalians a few days to get to us. In that time we have to stop the war. Once battle is joined, it'll be pretty hopeless before several million have been killed."

"Never mind the pious platitudes," said Slinh coldly. "A being who makes deals with sivva peddlers can't afford to moralize. The point is that I'm running a terrific risk in helping you and will expect a commensurate reward."

"Such as—?"

"How about a million League credits? That's a good round number."

"Done." Alak reached for his checkbook. "Only I'll give you my personal check. Then if I'm killed and you escape"—he grinned in the sullen red light—"it'll do you no good, because I haven't near that much in my account. But if we both survive, the Patrol will transfer a million to me and you'll get 'em."

"How do I know you won't welsh?"

"You don't. But if you think back, you may recall that the Patrol has that much honor. Not that we have any notions about the sacredness of oaths—I've committed perjury often enough when the occasion called for it—but we don't want to antagonize allies such as yourself. You, for instance, get around. You have contacts. We may have other jobs for you in the future."

"I may be a sivva runner," said Slinh contemptuously, "but I haven't yet sunk to being a Patrolman." He took the check and laid it carefully in the purse worn about his neck. "Very well. Now I've given you a hideout, but you can't stay here long. So I'll help you along further in case you can find a way for us both to get off this planet."

"If I complete my job, we both will," replied Alak. "If I don't, it'll be too bad—for me at any rate." He looked into the drip-

ping gloom of the tunnel. The light was like blood on his thin pale face.

Slinh shivered. "You're crazy as well as a crook," he said. "Two hunted, weaponless beings against an armed system—Starfire, even stereofilms don't indulge in that kind of trash any more." He huddled closer to the heater. "Why doesn't your glorious Patrol just bring its great battle fleet over here and tell the Luanians there'll be peace or else? What kind of policeman is it that makes deals with criminals and skulks in old sewers?"

Alak ignored the complaint. Presently he stirred, holding cold hands over the red glow. "Voal is officially only premier of Luan and its colonies on other planets," he said. "But he has influence enough to swing events as he wishes."

"Unfortunately, he believes in what he says. You can't bribe him."

"No, maybe not. Unless the price was sufficiently high—Look, he's married. He has two little children, and I don't think those pictures of him playing with them are all posed."

"If you're thinking what I'm thinking—" began Slinh. "Anyway, the secret service guards—"

Alak took the vibrosphere out of his pocket. "I fooled them with this once," he said. "It's a secret Patrol weapon and it may fool them again. It has to!" Briefly, he explained its operation. Then he went on, his voice rising with excitement:

"Voal has a private estate in the country, about fifty kilometers from here. His family should be there—and you can carry a three-year-old child—"

They sneaked out of the tunnel after dark, emerging in a narrow alley of the Old City. Crouching back into the shadows, they strained their senses—no, no vigilance beyond routine patrols and the tension that lay like a shroud over the whole planet, the expectation of death from the skies. The whole capital huddled under its force dome, waiting for the hammer blows of hyperatomic bombs and gravity snatchers, the silent murder of radiodust and biotoxin and all the synthetic hell which could lay waste a world in hours. Whether or not the enemy bombardments could penetrate that shield was an open question—it was the business of the navy to see that the matter was never de-

cided, by going to Marhal and blowing the system open before the Marhalians took off for Luan.

Alak and Slinh went along the darkened walks. Not many beings were abroad, though the taverns shooks with an unnatural hysterical merriment. It was no trick to find a parked ground-air car and appropriate it with the help of Alak's key. The difficulty would lie in escaping from the city.

The Patrolman sent the car whispering into the sky, toward the dimly glowing force-field. In moments, the call screen was buzzing and blinking an angry red. Alak switched over to the police band, keeping his face cowled and shadowed. An indignant helmeted head glared out of the screen at him.

"Where do you think you're going?" demanded the policeman.

"Officer, I've got to get out of the city," said Alak. "My wife and children—"

"The screen isn't lowered for any civilian in wartime. One second without protection and— Now get back on the ground where you belong."

"Be reasonable, officer. If the Marhalians were within ten light-years you'd be alerted. I . . . I wasn't expecting war. I left my family up at North Pole Resort—that's no place for them to be in wartime. They'll recall my wife anyway, she's an electronician—"

"How many times must I—"

"Of course, I could take it up with my old friend Jeron Kovals," said Alak, naming the city police chief, "but I didn't think he'd want to be bothered—"

"Well, there's a lot of military and government traffic tonight. Wait till the next official car comes along, then you can go out with it."

"Thanks," Alak snapped off the screen and let his body relax, muscle by muscle. It was as much as he'd dared hope for. But if his theft was discovered while he waited—

It wasn't. The stolen car slipped past the lowered force-dome together with a long sleek black flier bearing several stars. Alak took a direct north course until the city was behind the horizon, then opened the car up and swung in a screaming arc for the Premier's estate.

Nighted countryside slipped beneath him. The numbers rep-

resenting position co-ordinates changed on the car's dashboard. He let the autopilot take over, and studied the landscape below.

"Mostly agricultural," he said. "But . . . wait, there's a pretty big region of forested hills. We'll hide there."

"If we escape to hide," said Slinh gloomily.

When they were within a kilometer of Voal's home, Alak halted the car and hung motionless on its gravity beams. "They'd detect a metal object coming any closer," he said. "I'll wait here for you, Slinh."

Wordlessly, the reptile opened the door. His leathery wings flapped and the night swallowed him.

The servants were wakened by a shout and the sound of falling bodies. A blaster roared in the dark. Someone screamed, and there was heard a beating of wings out the nursery window.

When order of a sort was restored, it was found that—something—had come into the room, rendering several guards unconscious on the way; one, who had had a brief glimpse at which he had fired, swore it was a devil complete with tail and bat wings. Be that as it may, Alia, youngest daughter of the Premier of Luan, was missing, and a note addressed to her father lay on the floor.

He read it with his cheeks whitening:

Bring ten thousand League credits in unmarked bills tomorrow night at 0100 hours to that island in the Mortha River lying one hundred and three kilometers due south-southwest of your country house. Do not tell police or make any attempt to use tracer beams or otherwise trail us, or you will not see your child again.

The Zordoch of the Branna Kai was dead, and over the whole planet Cromman and such other planets of the system as had been colonized, there was mourning; for the hereditary chief of the most powerful of the clans had been well loved.

Duwan stood at the window and looked out over the great estate of his fathers. Torches bobbed through the dusk, a long ceremonial procession approached the castle with the slowness of ancient ritual. The weird skirl of pipes and the rolling thunder of drums rose in the evening, breaking in a surf of sound against the high stone walls, surf that sent its broken spindrift up to the ears of Duwan. He savored the sound, hungrily.

The Zordoch of the Branna Kai was dead; and the chiefs of

the clans were coming with their immemorial ceremonies to give the crown to his eldest son.

A slave entered, genuflecting before the tall arrogant figure, purple-robed and turbaned, that stood before the window. "Your pardon, lord," he said fearfully, "but a stranger desires admittance."

"Eh?" Duwan scowled. The castle was closed to all but the slowly approaching chiefs. The old rituals were not to be disturbed, nor did Duwan wish distraction in this greatest of hours. He snarled his gathering anger: "I'll have the warders' heads for this."

"Sire," mumbled the slave, "he did not come in by the gates. He landed on the roof in an airship. He is not of Cromman, but from some strange world—"

"Hm-m-m?" Duwan pricked up his ears, and an ominous tingle ran along his spine. He could not imagine a Galactic having much interest in as newly discovered and backward a system as this. Later, of course, after a progressive had held the Zordochy for a few years—but now— "Send him in."

The stranger came so quickly that Duwan suspected he had been on the way while the slave went ahead to get permission. The Crommanite recognized him as terrestrial, though he did not have the look of a Solarian—probably some colonist. What was more to the point, he wore the blue uniform of the League Patrol.

The human bowed formally. "Your pardon," he said, "but I am on an urgent mission." He glanced out the window at the approaching torches. "In fact, I am almost too late."

"That is true," replied Duwan coldly. "I must ask you to leave before the chiefs reach the castle's gates."

"My business can be accomplished in less time. I am, as you see, a representative of the Patrol—here are my credentials, if you wish to see them."

Duwan barely glanced at the papers. "I am familiar with the like," he said. "After all, Cromman has been in the League for almost a century now, though we have had little outside contact." He felt, somehow, irritated at the compulsion, that he must explain the fact: "When we were introduced to spaceships and the like, we naturally wished to develop our own planet and

its sisters first before venturing into other worlds. Also, most of the Zordochs were conservatives. But a newer generation of leaders is arising—I myself, as you see, am about to become head of the most influential clan—and we will see some changes now."

"That is what I came about," said the Patrolman. "It may seem strange, but I will make it short: I bear a most urgent request from Galactic headquarters that you refuse the crown when it is offered you tonight and direct that it be given to your younger brother Kian."

For a moment the sheer barefaced effrontery of it held Duwan paralyzed. Then the black rage that made him grab for his sword was throttled by a grim control, and when he spoke his voice was unnaturally level: "You must be mad."

"Perfectly sane, I assure you. But hurry, please, the procession will be here soon."

"But what imaginable reason—Why, Kian is more hopelessly conservative than even my father— And the League constitution specifically forbids interference in the internal affairs of member planets—" Duwan shook his head, slowly, slowly. "I can't comprehend it."

"The Patrol recognizes no laws save those of its own making —otherwise there is only immediate necessity," said the human cynically. "I will tell you why we wish this later, if you desire, but there is no time now. You must agree at once."

"Why . . . you are just crazy—" The rage came again, bitter in Duwan's throat: "If you try to impose your will forcibly on Cromman, you'll find that our boast of being a warrior race is not idle."

"There is no question of force. It is not necessary." The Patrolman reached into his portfolio. "You traveled quite a bit through the Galaxy some years ago. And the moral code of Cromman is stern and inflexible. Those two facts are sufficient."

With a horrible feeling of having stepped over the edge of the world, Duwan watched him extract a bundle of stereofilms, psychographs, and other material from his case. "When the chiefs arrive with the crown," said the Patrolman smugly, "I will explain that, while the League does not wish to meddle, it feels it to be a duty to warn its member planets against making mis-

takes. And the coronation of a Zordoch who had been guilty of, shall we say, moral turpitude in the fleshpots of the Galaxy, would be a definite mistake."

"But—" With a feeling of physical illness, Duwan looked at the pictures. "But . . . by the Spirit, I was young then—"

"So you were. But will that matter to Cromman?"

"I . . . I'll deny—"

"Stereofilms could be faked, yes, but not psychographic recordings, and there are plenty of scientists on Cromman who know that. Also we could produce a Crommanite or two who had been with you—"

"But— Oh, no!— Why, one of those Crommanites was a Patrolman who . . . who *took* me to that place—"

"Certainly. In fact, just between us—and I shall deny it on oath if you repeat it in public—the Patrol maintains that house and others like it, and makes a point of persuading as many influential and potentially influential beings as possible to have a fling there. The records we get are often useful later on."

Duwan reached for his sword. The Patrolman said evenly: "If I fail to report back, this evidence will be made public. I think you will be wiser to refuse the Zordochy for reasons of . . . well, ill health. Then this information can safely gather dust in the Patrol's secret files."

For a long, long moment Duwan stared at the sword. The tears blurring his eyes seemed like a film of rust across the bright steel. Then he clashed it back into its sheath.

"I have no choice," he said. "But when the League breaks its own laws, and employs the filthiest blackmailers to do the job, then justice is dead in the Galaxy."

Three days later, Alak's agreed code call went over the Luanian telescreens. Slinh received it and lifted the stolen car into the air. "Now be quiet," he told the dirty, tear-faced child with him. "We're going back to Daddy." He added to himself, "Of course, it's possible that Daddy had Alak drugged or tortured to give the signal. That's what I'd have tried. But if so, it's only what the Patrolman deserves for leaving me in charge of this brat."

For fear of its radiations revealing his hidden car to searchers —metal detectors were dangerous enough—Slinh had only

turned the televisor on for a few seconds at the agreed hours. Now, as he listened to the newscasts, a dawning amazement held him motionless. "Marhal has offered compromise— Premier Voal in secret conference— Secession from League being reconsidered—"

Holy Galaxy! Had Alak really pulled it off? If a crook like that Patrolman, hunted and alone, could overturn a planet—

Slinh set his vehicle down on the lawn of the Premier's city residence. The force dome was down and only a few military craft were in sight. Peace—

Tranis Voal stood before the house with his arm about his wife's shoulders. There were no other officials in sight, with the possible exception of Alak. The Patrolman stood to one side, his hair like coppery fire in the sun, the look of a fox who has just raided a chicken coop on his sharp face; but there was somehow a loneliness over him. Though he was the conqueror he was still one man against a world.

Slinh led the child outside. Voal uttered a queer little choking cry and fell on his knees before her. When he looked up, tears gleamed in his eyes and ran down his haggard cheeks. "She's all right," he choked. "She's all right—"

"Of course she's all right," said Alak impatiently. "Now that your government has gone too far toward peace to back down, I don't mind telling you that no matter what your attitude would have been, she wouldn't have been harmed. Patrolmen may have no scruples, but we aren't fiends." He added slowly, somewhat bitterly, "Only a completely honest man, a fanatic or a fool, can be really fiendish."

Slinh tugged at Alak's sleeve. "Now will you tell me just what happened?" he hissed.

"What I hoped for," said Alak. "After you left me on the island and took the kid into hiding, I just waited. That night Voal showed up with the money."

"Hm-m-m—so you also got a little personal profit out of it," said the Rassalan slyly.

"I didn't want his money, I didn't take it," said Alak wearily. "The ransom demand was simply a device to make him think a gang of ordinary kidnapers had taken the girl. If he'd known it was the hated and untrustworthy Patrolman who had her, he'd probably have been out of his head with fear and loathing, have

brought all the cops on the planet down on me, and . . . well, this way I got him alone and I had a club over his head. I told him the Patrol couldn't weigh the life of one child against several million, perhaps billion, and that we'd kill the kid if he didn't listen to reason. He did. I came here with him, secretly, and used him as my puppet. With his emergency powers, he was able to stop the scheduled assault on Marhal and swing the government toward conciliation. A truce has been declared, and a League mediator is on the way."

Voal came over. The wrath that had ravaged his face still smoldered sullenly in his eyes. "Now that I have her back," he said, "how do you know I'll continue to follow your dictates?"

"I've come to know you in the last few days," answered Alak coolly. "One thing I've found out is that, unlike me, you're a perfectly honest man, and you want to do what you think is right. That makes it possible for me to take an oath of secrecy from you and reveal something which will—I hope—change your attitude on this whole matter."

"That will have to be something extraordinary," said Voal icily.

"It is. If we could find a private place—?"

Slinh looked wistfully after the two men as they entered the house. He'd give a lot to eavesdrop on that conference. He had a shrewd suspicion that the greatest secret in the Galaxy was about to be revealed—which could have been useful to him.

They were in Voal's study before Alak said: "I want to get over that barrier of hostility to me you still have. I think you're objective enough to have seen in the last few days that the Patrol has no desire to oppress Luan or discriminate against it. Our job is to keep the peace, no more and no less, but that involves a paradox which we have only been able to resolve by methods unknown to policemen of any other kind. You can't forgive my murderousness toward your child—but I repeat that there never was any. We would not have harmed her under any circumstances. But we had to make you think otherwise till my job was done."

"I can stand it myself," said Voal grimly. "But what my wife went through—"

"That was tough, wasn't it?" Suddenly the bitterness was alive and corrosive on Alak's face. Contempt twisted his thin

lips. "Yes, that was really rugged, all three days of it. Have you ever thought how many *millions* of mothers this holy war of yours would have left without any prospect of getting their children back?"

Voal looked away from his bleak eyes and, for lack of better occupation, began to fumble with bottles and glasses. Alak accepted his drink but went on speaking:

"The basic secret of the League Patrol—and I want your solemn oath you will never breathe a word of it to anyone—" he waited till Voal gave agreement, "is this: The Patrol may under no circumstances take life. We may not kill."

He paused to let it sink in, then added: "We have a few impressive-looking battleships to show the Galaxy and overawe planets when necessary, but they have never fought and never will. The rest of the mighty fleet is—nonexistent! Faked pictures and cooked news stories! Patrolmen may have occasion to carry lethal weapons, but if they ever use them it means mnemonic erasure and discharge from the service. We encourage fiction about the blazing guns of the Patrol—we write quite a bit ourselves and call it news releases—but it has absolutely no basis in fact."

He smiled. "So, though we might kidnap your daughter, we would certainly never kill her," he finished.

Voal sat down. His knees seemed suddenly to have failed him. But he looked up, it was with an expression that Alak found immensely cheering. He spoke slowly: "I can see why a reputation as formidable fighters would be a great asset to you —but why stop there? Why can't you stand up and fight honestly? Why have you, instead, built up a record of such incredible villainy that the worst criminals of the Galaxy could not equal it?"

Alak relaxed into a chair and sipped his cocktail. "It's a long story," he said. "It goes right back to the beginning of interstellar travel."

He searched for words a moment, then began: "After about three centuries of intercourse between the stars, it became plain that an unco-ordinated Galactic civilization would inevitably destroy itself. Consider the problems in their most elementary form. Today there are over a million civilized stars, with a popu-

lation running up over ten to the fifteenth, and exploration adds new ones almost daily. Even if that population were completely uniform, the sheer complexity of administrative detail is inconceivable—why, if all government services from legislators to postmen added up to only one percent of the total, and no government has ever been that efficient, that would be some ten to the thirteenth individual beings in government! Robocomputers help some, but not much. You run a system with a population of about two and a half billion, and you know yourself what a job that is.

"And then the population is not uniform, but fantastically diverse. We are mammals, warm-blooded, oxygen breathing—but there are intelligent reptiles, birds, fish, cephalopods, and creatures Earth never heard of, among the oxygen breathers alone—there are halogen breathers covering as wide a range, there are eaters of raw energy, there are creatures from worlds almost next to a sun and creatures from worlds where oxygen falls as snow. Reconciling all their needs and wants—

"The minds and the histories of the races differ so much that no intelligence could ever imagine them all. Could you think the way the communal race-mind of Sturvel's Planet does? Do you have the cold emotions of a Vergan arthropod or the passionate temper of a Goldran? And individuals within the races usually differ as much as, say, humans do, if not more. And histories are utterly unlike. We try to bring the benefits of civilization to all races not obviously unfit—but often we can't tell till too late. Or even . . . well, take the case of us humans. Sol has been at peace for centuries. But humans colonizing out among the stars forget their traditions until barbarians like Luanians and Marhalians go to war!"

"That hurt," said Voal very quietly. "But maybe I deserved it."

Alak looked expectantly at his empty glass. Voal refilled it and the Patrolman drank deep. Then he said:

"And technology has advanced to a point where armed conflict, such as was at first inevitable and raged between the stars, is death for one side and ruin for another unless the victor manages completely to wipe out his foe in the first attack. In those three unorganized centuries, some hundreds of planets were sim-

ply sterilized, or even destroyed. Whole intelligent races were wiped out almost overnight. Sol and a few allies managed to suppress piracy, but no conceivable group short of an overwhelming majority of all planets—and with the diversity I just mentioned such unanimity is impossible—could ever have imposed order on the Galaxy.

"Yet—such order was a necessity of survival.

"One way, the 'safest' in a short-term sense, would have been for a powerful system, say Sol, to conquer just as many stars as it needed for an empire to defend itself against all comers, without conquering too many to administer. Such a procedure would have involved the permanent establishment of totalitarian militarism, the murder or reduction to peonage of all other races within the imperial bounds, and the ultimate decadence and disintegration which statism inevitably produces.

"But a saner way was found. The Galactic League was formed, to arbitrate and co-ordinate the activities of the different systems as far as possible. Slowly, over some four centuries, all planets were brought in as members, until today a newly discovered system automatically joins. The League carries on many projects, but its major function is the maintenance of interstellar order. And to do that job, as well as to carry out any League mandates, the Patrol exists."

With a flash of defiance, Voal challenged: "Yes, and how does the Patrol do it? With thievery, bribery, lies, blackmail, meddlesome interference— Why don't you stand up openly for the right and fight for it honestly?"

"With what?" asked Alak wearily. "Oh, I suppose we could maintain a huge battle fleet and crush any disobedient systems. But how trustful would that leave the others? How long before we had to wipe out another aggrieved world? Don't forget—when you fight on a planetary scale, you fight women and children and innocent males who had nothing whatsoever to do with the trouble. You kill a billion civilians to get at a few leaders. How long before the injustice of it raised an alliance against us which we couldn't beat? Who would stay in a tyrannical League when he could destroy it?

"As it is, the Galaxy is at peace. Eighty or ninety percent of all planets know the League is their friend and have nothing but praise for the Patrol that protects them. When trouble arises,

we quietly settle it, and the Galaxy goes on its unknowing way. Those something times ten to the fifteenth beings are free to live their lives out without fear of racial extinction."

"Peace can be bought too dearly at times. Peace without honor—"

"Honor!" Alak sprang from his chair. His red hair blazed about the suddenly angry face. He paced before Voal with a cold and bitter glare.

"Honor!" he sneered. "Another catchword. I get so sick of those unctuous phrases— Don't you realize that deliberate scoundrels do little harm, but that the evil wrought by sincere fools is incalculable?

"Murder breeds its like. For psychological reasons, it is better to prohibit Patrolmen completely from killing than to set up legalistic limits. But if we can't use force, we have to use any other means that comes in handy. And I, for one, would rather break any number of arbitrary laws and moral rules, and wreck a handful of lives of idiots who think with a blaster, than see a planet go up in flames or . . . or see one baby killed in a war it never even heard about!"

He calmed down. For a while he continued pacing, then he sat down and said conversationally:

"Let me give you a few examples from recent cases of Patrol methods. Needless to say, this is strictly confidential. All the Galaxy knows is that there is peace—but we had to use every form of perfidy and betrayal to maintain it."

He thought a moment, then began: "Sirius and Alpha Centauri fought a war just before the founding of the League which nearly ruined both. They've managed to reconstruct since, but there is an undying hatred between them. League or no League, they mean to be at each other's throats the first chance they get.

"Well, no matter what methods we use to hold the Centaurians in check. But on Sirius the government has become so hopelessly corrupt, the military force so graft-ridden and inefficient, that action is out of the question.

"Now a vigorous young reformer rose, honest, capable, popular, all set to win an election which would sweep the rascally incumbents out and bring good government to Sirius for the first time in three centuries. And—the Patrol bribed him to

throw the election. He wouldn't take the money, but he did as we said, because otherwise, as he knew, we'd make it the dirtiest election in even Sirian history, ruin his business and reputation and family life, and defeat him.

"Why? Because, of course, the first thing he'd have done if elected would have been to get the military in trim. Which would have meant the murder of several hundred million Centaurians—unless they struck first. Sure, we don't like crooked government either—but it costs a lot less in lives, suffering, natural resources, and even money than war.

"Then there was the matter of an obscure barbarian system whose people are carnivorous and have a psychological need of combat. Imagine them loose in the Galaxy! We have to hold them in check for several generations until sublimation can be achieved. Fortunately, they are under an absolute monarch. A native woman whom *we* had educated managed to become his mistress and completely dominate him. And when the great nobles showed signs of revolt, she seduced one of them to act as her agent provocateur and smoke out the rebellious ones.

"Immoral? Sure. But two or three centuries hence, even the natives will thank us for it. Meanwhile, the Galaxy is safe from them.

"A somewhat similar case was a race by nature so fanatically religious that they were all set to go crusading among the stars with all the weapons of modern science. We wrecked that scheme by introducing a phony religion with esoteric scientific 'miracles' and priests who were Patrolmen trained in psychotechnology—a religion that preaches peace and tolerance. A dirty trick to play on a trusting people, but it saved their neighbors—and also themselves, since otherwise their extinction might have been necessary.

"We really hit a moral bottom in the matter of another primitive and backward system. Its people are divided into clans whose hereditary chiefs have absolute authority. When one of the crown princes took a tour through the Galaxy, our agents managed to guide him into one of the pleasure houses we maintain here and there. And we got records. Recently this being succeeded to the chiefship of the most influential clan. We were pretty sure, from study of his psychographs, that before long he would want to throw off the League 'yoke' and go off on a spree

of conquest—it's a race of warriors with a contempt for all outsiders. So—the Patrol used those old records to blackmail him into refusing the job in favor of a safely conservative brother.

"Finally we came to your present case. Marhal was ready to fight for the rich prize of Lhing, and the League arbitrator, underestimating the determination of Luan, awarded the whole planet to them. That was enough to swing an election so that a pro-League government came into power there. I was sent here to check on your reactions, and soon saw a serious mistake had been made. War seemed inevitable. I tried the scoundrelly procedure of fomenting sabotage and revolution. After all, that damage would have been negligible compared to the cost of even a short war."

"The cost to Marhal," said Voal grimly.

"Maybe. But after all, I had to think of the whole Galaxy, not Luan. Sometimes someone must suffer a little lest someone else suffer a lot more. At any rate, my scheme failed. I resorted to alliance with a dope smuggler—he ruins a very few lives, while war takes them by the millions—and to kidnaping. I threatened and bluffed until you had backed up so far that mediation was possible.

"Well, that's all, then. The League commission is on its way. They'll have some other fat plum to give Luan in place of Lhing—which I suppose will make trouble elsewhere for the Patrol to settle. Your government will have to go out of power after such an about-face—you're rejoining the League, of course—but I daresay it'll soon get back in. And you have been entrusted with a secret which could split the Galaxy wide open."

"I'll keep it," said Voal. He smiled faintly. "From what I know of your methods—I'd better!" For a moment he hesitated, then: "And thanks. I was a fool. All Luan was populated by hysterical fools." He grimaced. "Only I still wonder if that isn't better than being a rogue."

"Take your choice," shrugged Wing Alak. "As long as the Galaxy keeps going I don't care. That's my job."

Bureau of Slick Tricks

BY H. B. FYFE

RAMSAY STOOD on the smooth, springy floor of the empty anteroom, staring absently at the wall map of Terra's economic empire and trying to decide whether he was there by invitation or under duress.

Certainly, the suave young man had been very apologetic about interrupting Ramsay's vacation. He had also been alert to haul the tall, black-haired spaceman from the path of that water-logged Venusian, speeding down the hall outside in his three-wheeled, air-tight tank.

Yes, Tom, he muttered to himself, *two years in space and you don't know how to act on Terra.*

Something about the stellar map disturbed him. Surely the star Cagsan was not that near to Sol. And where was the whole Fegashite binary system?

For foreign visitors, I suppose, he thought.

The map might well be deliberately distorted. As the economic crossroads of a sector of the galaxy, Terra sometimes was reluctant to reveal the exact locations of rich planets. In fact, communications to some star systems were often practically secret.

The map did show, in rather schematic fashion, the relationship of Sol with the multitude of stars lying out toward the "edge" of the galaxy, as well as points of contact with the vague and mighty civilizations farther toward the center. Finding profitable the role of middleman for a large volume of space, Terra had become a sort of front office for exploiting a huge trading empire. One of the devices useful to its interstellar "credit diplomacy" was the Bureau of Special Trading.

This was a scattered, intricate organization, designed to han-

dle all the delicately shady problems arising from intercourse with thousands of different worlds—many of them with peculiar views of their own importance of adhering to quite exotic codes of behavior.

A musical note sounded, followed by a voice from an address system, requesting Mr. Ramsay to step into the office.

Ramsay slid open the door and strode into the next room. His calf-high spaceman's boots sank noticeably into the floor as the man behind the desk rose to greet him.

"Good afternoon," said a pleasant baritone.

The occupant of the office was dressed informally. His light-blue slacks and full-cut turquoise neck scarf contrasted pleasantly with a wine-colored jacket of the current draped and belted style. Feeling very dull in his dark green, Ramsay wished he had at least worn one of his new gold and red neck scarves.

He was waved into a comfortable chair, and in a few minutes began to feel more at ease. J. Gilbert Fuller was a very superior type indeed, but he was frank to confide to Ramsay that he was worried.

"And you say I can help you?" the spaceman asked, wondering if the wavy golden hair above his host's ruddily tanned features could possibly be natural.

Fuller maintained an amiable expression, but raised a nervous finger to stroke his trim mustache.

"I am sure that you can," he said. "Ah . . . perhaps I should first explain the . . . functions . . . of the Bureau."

"I've heard of it," said Ramsay.

"Oh, well, then, of course you know that our main occupation is encouraging that sort of good will which influences visitors to continue doing business with Terra."

"And in keeping them happy," agreed Ramsay pleasantly, "you find it necessary to do some queer things."

Fuller's hands and features joined in an expressive gesture, suggesting bland denial, deprecating modesty, and willingness to treat Ramsay as a knowing insider.

"Oh, I know those jokes that have become popular," he chuckled. "Wild deals by the Bureau of 'Slick Tricks'—but they are merely hearsay. I can offer only a routine matter for your interest."

"What makes me so special?" asked Ramsay.

"What makes you specially valuable? The fact, to speak loosely, that you are the only man available at the moment who can speak Kosorian."

Ramsay straightened in his chair. He decided that Fuller probably never spoke loosely. How thoroughly had they checked him beforehand?

"That," he said slowly, "was a place I was glad to blast off from. How did you know about it?"

"Well . . . anyhow, it seems to be as near to the absolute Edge as any Terran has ventured. Nevertheless, a spaceship from that star is due to land on Terra shortly."

"From Kosor?" demanded Ramsay.

"Yes, a patrol rocket has just brought down three of their representatives. You know our policy of supplying interpreters familiar with the customs and language of our visitors. Unfortunately, speakers of Kosorian are few; the Deep Space Agency listed only you at present on Terra."

Ramsay stared at him.

"Did you say they were going to land *on* Terra?"

"Yes, I did."

"Do you know their propulsion methods?"

"Why, the Bureau signaled them in interstellar code, explaining which ships can land, what sizes have to land on Luna or the other planets, and that atomic-powered rockets must take up orbits around Luna while their freight is lightered down to Terra. They made no declaration of restriction."

"Watch out for them!" warned Ramsay.

"What do you mean?"

"Kosorians are . . . well, it wouldn't even occur to them to take the trouble to obey a law. Whatever they can get away with, they do."

"Are you telling me they are lawless? Criminal?"

Ramsay crossed his long legs and ran a hand through his close-cropped hair. Fuller's eyes followed the motion, staring at the narrow scar running back from the spaceman's left temple.

"That's not it *exactly*," said Ramsay. "They have a few general laws of a queer sort. They stick to them when it's convenient. They're . . . what's the word I want? . . . they're amoral. They just don't think the way we do."

"But we have no repressive statutes," protested Fuller. "There should be no cause for friction."

"Don't you get it?" demanded Ramsay. "Just for example, when I was there, they were using atomic jets. Did they warn you? You better see to it they're not allowed to land directly on Terra!"

Fuller's face lost its blandness. For an instant, hardness showed through, and Ramsay sensed a wily, ruthless competence. That apparent plumpness might be layers of muscle over a stocky frame. He wondered if Fuller had anything against him.

The other turned meanwhile to his desk visor and spoke into it. Detecting a snapping undertone in the confident voice, the spaceman could imagine the stimulation of glands and the rise of blood pressure at the other end.

Fuller finished, flipped a switch, and leaned back.

"How did you make out in the Kosorian system, Ramsay?" he asked in a conversational tone.

"Got skinned to the bone. I went in there with a shipload of radium and jewels from Bormek, precision instruments from Terra, and . . . uh—"

"Go on," Fuller encouraged him. "The B.S.T. has no interest in the dysenine you picked up around Fegash. Take a hint, however; the Interstellar Narcotics Department was quite puzzled when so much of it disappeared."

Ramsay held his features perfectly expressionless—and knew that he was not fooling this slicker one bit. Lucky for him that there was little co-operation between the Bureau and the more legal-minded governmental agencies!

"Well," he continued, "I was going to say, they haven't got any ethics at all. Those that paid off at all tried to hand my gyp merchandise. A bunch of them even argued in cold blood about whether to space-freeze me right away for my ship, or wait till I had a cargo."

"What stopped them?" asked Fuller.

"One of them came on the sly to ask me what life was worth."

"By the way," said Fuller chattily, "what *was* it worth?"

Ramsay stared at him coldly.

"Two hundred Bormekian neurovibrators and the last of my radium."

"That was very bad," murmured Fuller. "Transporting deadly

weapons. Interstellar Council is touchy about that. I suppose he made himself master of at least one planet?"

"No, I had to salvage some respect, so I told on him and put in for the reward."

"Reward?"

"Most of their so-called laws are reinforced in the only way that works. They admired me for it, besides liking the chance to unload my jets."

"From what you tell me, I wonder how you escaped."

"Ah, that's where I had a lightyear on them. Before their Senior Council paid off, I let my intended course leak out. I stowed away the stuff, about a thousand kilocredits' worth of *iraz* crystals, and blew off the other way."

"And then?"

"Worked back to Sol about six weeks ago, but before that I sold the crystals to a Bormekian who had been around Kosor. He told me the story was all through their system, how the smart boys had missed the Terran. Said I was the only alien in forty of their years to get out with more than he took in."

Before the Bureau man could answer, his visor chimed.

"Send them right in," he said after listening to the message. "Here they are," he added to Ramsay.

The door was opened by the same unobtrusive young man who had brought Ramsay. He ushered in the visitors and discreetly withdrew as Fuller rose to greet them. Ramsay saw the B.S.T. man start to thrust out his hand, then pull it back in confusion as he sighted the tentacles.

The Kosorians walked steadily on three tapering extremities which functioned similarly to human legs; but the other triad of tentacles, corresponding to arms, seemed less natural because they grew from a base at the top of the Kosorian.

The spaceman enjoyed the look on Fuller's face as the man scanned the dull greenish, cylindrical bodies and the gleaming metallic clothing and decorations for something at which he could talk. Finally, he realized that there was no single "head." Under each of the upper tentacles was a collection of sensory and feeding organs: eyestalks, mandibles, auditory tympanna, and others more puzzling.

"You only see the half of it," murmured Ramsay. "They breathe through their skins."

"Oxygen, of course? Warm-blooded?"

"Oh, yes. But cold-hearted."

"Well, tell them that I am honored to welcome them to the Terran Bureau of Special Trading."

Ramsay put the welcome into as flowery and formal a Kosorian as he could remember. He introduced Fuller as a person of considerable importance—which he suspected might be true and which the Kosorians, with what they considered good manners, were the first to admit. One of them thrust out two eyes and scrutinized Ramsay carefully.

"All Terrans look alike," it hissed from its nearest speaking orifice, "but I sense you are familiar."

"You do?" said Ramsay.

"*Sssssh!*" It was an exclamation of wonder, not a request for silence. "I feel the truth. You were on Kosor IV. During Maoog's rebellion."

The other two waved eyes toward the speaker.

"This is the Terran which sneaked off with the reward."

Every tentacle in the room twitched like the tail of an irritated cat, slapping against the cylindrical bodies in a Kosorian paroxysm of amusement.

"I am Evash," the speaker informed Ramsay. "My companions are Ozul Nath and Viska Piljoog. We are deeply honored to meet one of your sagacity."

"What is it saying?" demanded Fuller.

"They admire me for my past," said Ramsay. "What do you want me to tell them?"

Fuller instantly became the perfect host. Ramsay interpreted the Bureau's arrangements for the ferrying of freight from the orbit about Lunar, into which the Kosorian ship had been ordered. He expressed in several different ways the Bureau's desire to make their visit pleasant, and the hope that it would lead to mutually profitable trade relations. He explained about the Bureau's hotel for interstellar travelers, and mentioned that all rooms in the oxygen wing could be regulated for temperature, pressure, and oxygen content.

Evash protested that the Terrans' hospitality was exceeded

only by their wisdom, and asked when he and his friends might see this hotel.

Fuller beamed when this was translated.

"Why, take them down now, in a Bureau aircar. Here—I'll give you a B.S.T. identocard. I'll countersign it—and you stamp your thumbprint in the corner. Now, anybody will accept your signature and send us the bill."

"How high can I go?" inquired Ramsay prudently.

"Why, I don't know." Fuller stared in surprise. "I doubt that one man could dent the Bureau's budget. Want a few kilocredits for petty cash?"

"Better not," said the spaceman. "I'd have my pocket picked by these accessories in half an hour."

"Here! Take one 'kill' anyhow. If it makes them happy to steal, that serves our purpose also."

Ramsay shrugged, pocketed the roll of bills, and took his leave. He escorted the Kosorians to the hotel in an aircar placed at his disposal by Fuller. Since they were oxygen breathers, he was able to help them to check in and to see them to their suite on the second floor. He promised to return next morning when the B.S.T. had made landing arrangements for them.

Leaving, he was stopped in the lobby by a sad clerk. The man was accompanied by a mechanical monstrosity housing a chlorine-breathing citizen of Vozaal VII.

"Beg pardon, sir," said the harassed clerk, "but are you the gentleman with the Kosorians—I believe that is the name?"

"That's right," said Ramsay, pulling out his identocard.

"Oh, I see, sir. Honored, indeed. But this . . . ah . . . gentleman in the rather crude vacuum suit wished to inquire about them."

He turned to the metallic bulk, which exchanged a series of whistles with him. The alien turned and lumbered away.

The clerk managed a rueful gesture with one eyebrow.

"He says he wants a special locking device on his air lock, and all his valuables in the hotel safe. He also served notice that he intends to keep a weapon in his room."

"Good idea," agreed Ramsay cheerfully. "Met them before, did he?"

He went out, leaving the gloomy man to his worry.

Having returned to the Bureau in the aircar, he discovered that Fuller had plans for him that did not include a free evening. The chief slicker had a pair of assistants and some weird apparatus gathered in a room adjoining his office.

"You are going to give me lessons in Kosorian," he told Ramsay.

"Now?" yelped the latter.

"It will only take an evening, with hypnosis and sleep recordings made while you talk to me about the language."

"But—"

"Oh, I know I am being inconsiderate after your long time in space, but your fee will be generous. You do want to co-operate, do you not?"

"Oh, sure, I don't mind," said Ramsay, thinking of the Fegashite dysenine. "What shall I start with?"

The next morning, Tom Ramsay went directly to the B.S.T. hotel. Fuller had promised to have an aircar with a permanently assigned chauffeur meet him there. During their brief morning television talk, Fuller had explained the arrangements.

The Kosorians had been assigned a warehouse in the hundred mile long coastal landing area south of the city. The Bureau had announced the event to certain buyers, among whom it had planted its own eyes and ears. Ramsay was to escort the Kosorians there to meet the others of their crew accompanying the cargo, and was to watch for anything suspicious.

That was about the way Ramsay understood it. He was a trifle hazy on details, since Fuller had insisted upon practicing the sort of pidgin-Kosorian he had acquired by the partnership of Ramsay and science. The spaceman felt that the slicker's accent was not beyond reproach.

He was surprised to find his charges waiting for him in the empty lobby.

"We have been exploring the resources of this building," Evash hissed in reply to his question. "There were some methods of estimating the results of chance."

"Methods of— Oh! The gambling room. Yes, it's designed to duplicate the favorite games of our visitors."

"It occurred to us," whooshed Ozul, "that they were arranged very courteously to be generous toward the guests."

"Oh?" said Ramsay, thinking that the Bureau had better be slicker with its tricks for making visitors happy.

"Please do not think us displeased," Evash begged him. "It is merely that after we had obtained a large sum of your money . . . was it over a hundred kilocredits, Viska?"

Ramsay gulped.

"At any rate," Evash continued, "you can understand how the attraction faded. Especially since we found we knew certain methods of influencing some of the games."

The skin prickled all over Ramsay's body. The wad of Fuller's money felt like a planetoid of negative matter in his pocket.

"You mean," he whispered, "that you can win—*anytime?*"

The Kosorian tentacles twitched in amusement.

"I can feel your thoughts like the rays of Kosor on the airless first planet," said Evash. "Unfortunately, they will not allow us to return."

"What!"

"We permitted some of the non-Terran guests to instruct us in their own games," explained Ozul. "*Ssssh!*"

"They thought they were cheating us," added Viska, his tentacles curling at the tips almost into knots.

"And now," Evash hissed regretfully, "only the Terrans will communicate with us at all. It must be their duty."

Cursing himself for rising to the bait, Ramsay went to inquire for the aircar Fuller had promised. He was informed that it would drop down from the parking roof in a moment. Ramsay led the Kosorians outside and looked around for it.

A husky, uniformed man, whose features suggested experience in one of the rougher sports, left an aircar with idling props and trotted over.

"Mr. Ramsay?" he asked.

"And party," added the spaceman.

"Yes sir . . . ulp! All tails, no heads, ain't they?"

"What?"

"I'm Jack Harley. Mr. Fuller says I'm to stick with you for this job."

"Glad to have you, Jack," said Ramsay, noting mentally that this was a good pair of shoulders to have handy. "Count your money, and let's go. Know where it is?"

"Yeah. Mr. Fuller gimme a map."

They all crawled into the aircar. About a quarter of an hour later, they hovered over a long, low building beside which rested a small, local-cargo rocket. This had been brought into position for unloading on a series of undercarriages running along specially constructed tracks. As soon as Jack had landed, they alighted, Ramsay being especially relieved to do so. The machine was designed for comfort—if your companions were human.

They were admitted to the building when Ramsay flashed his B.S.T. card to the guards. The spaceman glanced down the length of the cargo shed. All the workers were Terrans, but he could see several Kosorians supervising the unloading. At the far end, one of these seemed to be comparing his own records on tape with the paper pages of a Terran clerk.

Even at a distance, it was obvious that the barrier of language prevented the least progress. Standing by was a rotund little Terran, waving his arms hysterically; but the Kosorian was by nature better equipped for such debate.

"I see that some of your friends have come," said Ramsay to his three charges as they moved toward the scene.

"From that I sense an idea," hissed Evash. "Do I understand that the circulation of them is inhibited?"

"Inhibited— Oh. Yes, more or less. It's a formality, until or unless they have passports approved. I guess you'd call the law here a little clumsy."

"We are relieved to hear your opinion," Evash told him. "It suggests that informal alleviation may be possible."

Ramsay thought: *Here it comes! Watch out for strings, kid.* Aloud, he said:

"I'd be flattered to hear your solution."

The three Kosorians slowed their pace with such unanimity that the spaceman wondered if they possessed any unseen means of communication. He stopped to face them.

"It happens," said Ozul politely, "that we can well spare a sum of Terran currency, having more than is convenient—"

He displayed a neatly folded wad of credit bills at the tip of one tentacle.

"Oh, some of your winnings?" inquired Ramsay.

"It seemed to us," suggested Viska, "that they would be more useful to you."

"Besides," said Evash, "hardly any Terran except you could detect another Kosorian replacing one of us."

"I suppose not," said Ramsay, carelessly thrusting the currency into the pocket of his slacks. "And it seems a shame for them to miss seeing the sights."

The trio agreed enthusiastically.

"It is a flattering pleasure to have met you again," Evash concluded. "You are the one Terran who understands us."

Ramsay expressed gratitude and suggested that they investigate the dispute ahead of them. The Kosorians slithered gracefully between hustling workers and truckloads of goods to follow Ramsay. The Terran clerk withdrew pointedly, leaving the strange Kosorian and the little man thrashing air.

"Can I be of service?" asked Ramsay in Kosorian.

"Can you *talk* to it?" demanded the Terran, amazed.

"I am overjoyed to sense you," said the Kosorian, making a gesture of greeting to Ramsay's companions. "I stand in dire need of wisdom."

"Say it can't do that to me!" panted the chubby man.

Evash had turned to his crewmate and was speaking in careful Kosorian, slow enough for Ramsay to understand easily. He overheard several references to his kindness, intelligence, and importance. The Kosorian supervisor brought all possible eyes to bear upon him.

"This thing seems disturbed by some matter," it explained apologetically, "but I am too stupid to understand it."

"What's your damage?" Ramsay asked the little man.

"Name's Carter. Contracted for this entire cargo. Got priority from the B.S.T. for a special bid."

"You mean you're buying it sight unseen? Brother, the orbits shift when these boys are around!"

"Oh, I'll make a profit, all right. Ship the whole lot to one of my sector agents and let him worry. *Anything* has a market *somewhere*. Besides"—he winked—"I got a guarantee against loss."

"Well, it's your gamble."

"Not the point. *It* won't deliver everything. See that pile of cans there?"

Ramsay followed the gesture to a shoulder-high stack of sealed metal containers. The cans were cubes measuring about fifty centimeters to the edge. There were nearly a hundred.

"You refuse him part of the cargo?" he asked in Kosorian.

"Now I feel the truth," said the supervisor. "Tell it this belongs to the crew members, for private speculation, according to our custom."

"It is so," confirmed Evash. "Such would not come under the agreement. They should be presented for public bidding."

"That seems only fair," admitted Ramsay. "The public may be interested. What do the crew members usually choose?"

He idly hefted one of the cans. It was very light, not empty, but like something fluffy and bulky packed in thin metal.

"I do not know," said Evash. "Each one chooses differently. Would your Bureau care to inspect the contents?"

"Oh . . . no," said Ramsay quickly, feeling that he had shown entirely too much curiosity.

There would be nothing wrong with the first shipment; the later ones would bear watching. Or would the Kosorians have estimated his reasoning in exactly that way?

He explained as best he could to Carter.

His three Kosorians spent about an hour inspecting the facilities at their disposal and conversing with various of their companions. At length, they returned to the hotel, where Ramsay arranged for an aircar to take them on an aerial tour.

This attended to, the spaceman had Jack make a beeline for the Bureau. He was reasonably certain that a different "Viska" had returned from the warehouse.

"And you think they were not the same?" mused Fuller, when Ramsay had reported. "How much did they give you?"

Ramsay pulled the roll of credits from his pocket and began to count them. As he passed eight hundred, he hesitated. Two more hektocredit bills made one thousand.

"One kill, to be exact," he murmured.

Fuller looked at him thoughtfully.

"I handed you a kilocredit for expenses yesterday," he began, but Ramsay was already fumbling out his credit case.

He carried one of iridescent Cagsan lizard skin, supple but incredibly tough. His fingers plucked at the tiny combination lock to the large-bill compartment, but he felt that it would be empty. It was.

"Believe me," he said to Fuller, "I never noticed it out of my pocket! I don't even know how long it took them to open the lock."

"Don't worry," said Fuller. "I am beginning to believe your account of them."

He rose.

"If you will step into the next room, I have something to show you."

Ramsay silently followed him through the door.

In the next room, they found two of Fuller's assistants with a sort of outsize centipede, which Ramsay recognized as a Fegashite. This individual seemed very nervous, constantly making fluttering motions with his six pairs of limbs to smooth down the white fur of his slim, two-meter body. Like the Terrans, he had a two-eye visual system, but each wandered at will about the office, without daring to meet a human glance.

"I would like you to meet Number 840176," said Fuller.

"I thought they used names," said Ramsay.

"They do," replied Fuller genially, "until we catch them selling dysenine or other drugs around Sol."

The Fegashite twittered shrilly. One of the assistant slickers translated.

"He says you promised to overlook it in return for his cooperation."

"Perhaps I shall," murmured Fuller. "It depends upon how useful he may be."

He turned to Ramsay.

"One of the local patrol ships caught this worm negotiating with your friends."

"When?" demanded Ramsay.

"Oh, I use the term loosely. I mean their main ship, just inside Luna. The patrol picked him up after he left their orbit. They sent this weasel down to me when they found traces of the leading Fegashite export."

"Dysenine?"

"What else? And my neck hairs tell me your Kosorians have it by now. Did you see anything odd at the warehouse?"

Ramsay told his suspicions of the cans ostensibly owned by the crew. The Fegashite, apparently understanding a good deal of Terran, twittered to Fuller's assistant.

"He says he sold it to them in plastic bags," translated the man. "In powder form, you know, that light stuff."

"Yes, I know," agreed Ramsay.

"I imagine you do," said Fuller. "Were those cans light enough?"

"Yes," said Ramsay, with bitter simplicity.

"Well," said Fuller, "I shall just have to get the Bureau on the job."

They returned to the B.S.T. man's own office, where, at his request, Ramsay put through a telecall to the Kosorians. He located them in the aircar supplied by the hotel and arranged an appointment with Fuller upon their return.

That gentleman dismissed him for the rest of the day, seeming confident of his ability to make himself understood in Kosorian.

"At least on the fundamentals," he muttered viciously as Ramsay left.

Some time later, Ramsay's dinner was interrupted by a call from the Bureau. Judging from the background on the visor, Fuller was in his own office.

"We came to an understanding," he informed Ramsay. "They had a little deal with a Terran who shall remain nameless—to you. Some of my colleagues will be so happy to lay hands on him that I offered your octopi chums their expected profit if they would let us deliver the goods."

"They admit what it is?" asked the spaceman.

"They appear to be without a sense of shame. The B.S.T. will, of course, arrange for the Narcotics Department to confiscate the dysenine immediately, so no harm will be done. I demanded only one condition from the Kosorians, and they promised to bring the small amount of dysenine they held out to my office tonight."

"Have them watched," recommended Ramsay.

Fuller clucked reprovingly.

"My dear boy!" he exclaimed.

"Will they stay long?" asked Ramsay, to change the subject.

"The Bureau has already transferred their credit to Luna, where a cargo was got together for them. They are loading now from Luna, at the same time we are clearing up the details of their cargo here."

"That's nice," said Ramsay.

"Quite. Drop in to see me tomorrow morning."

Ramsay agreed, cut off, and began to plan an evening. The next morning, but not too early, he entered Fuller's office. Taking a chair at the other's languid gesture, he noticed that the B.S.T. man did not seem as alertly self-possessed as usual.

"Trouble?" asked Ramsay, crossing his long legs.

A slight frown creased Fuller's brow.

"I am not sure," he said.

Ramsay waited for further revelation.

"What I should say, I suppose, is that I cannot quite remember."

"Can't remember what?" asked Ramsay.

Fuller threw him a disgusted glare. He opened his mouth for what Ramsay expected to be a cutting answer, but the chime of his desk visor sounded.

"Fuller here," he answered. "Astro Department? Well . . . not exactly alone—"

He glanced thoughtfully at Ramsay.

The spaceman raised one eyebrow and gestured toward the door, but the other shook his head.

"Does it concern my Kosorian case?" he asked the visor.

There was an instant of silence, then Ramsay heard a murmur from the instrument. A pretty slick arrangement, he thought, the screen turned away from visitors and the sound directionalized as well.

Fuller made a wry face. Without a word, he nodded to the unseen caller and flipped the switch.

"Now I remember," he told Ramsay grimly.

"What is it?"

"Yesterday," said Fuller, slumping forward dejectedly, "in the evening, after I called you, our three friends returned."

"To give up the dysenine they still had?"

"That is what I thought. They began to lead up to it in that

flattering fashion of theirs. I forget which one went so far as to put his 'arm' around my shoulder, but after that things seemed different."

"What do you mean?"

"It is very difficult to visualize. I must have been instructed to forget, but I think it felt a little like hypnosis. I seemed to understand their speech better, but I do not remember having a single original thought after that."

"They must have slipped you a touch of dysenine," said Ramsay. "Did you lose track of time? Were all your other senses very alert, especially about physical movements?"

"Yes," said Fuller. "Perhaps those are the associations which help me to remember, now that something has reminded me. To be as brief as possible:

"Somehow, I began to feel that it would be a good thing to show them the astro-intelligence section. I think that was after they expressed interest in that wall map outside. It was after hours, but my badge got us past what I had always considered the perfect mechanical watchman device."

"What kind of a place is it?" asked Ramsay.

"The secret file room is where we wound up, I think. I feel that we were in there only a few seconds, but that may be the effect of the drug. I have a picture in mind of one of those snakes holding a length of film."

"You mean they keep the files on microfilm?"

"Yes, and that must be what made me remember just now. That call was a general alert, the routine procedure when something important is mislaid. They are missing a sixteen millimeter film strip, which holds complete data, especially location, about a whole group of little-known star systems."

"Something—profitable?"

"Unimaginably."

"Do they know about the Kosorians, in the other section?"

"Not yet, apparently," groaned Fuller. "As soon as they learn, I shall be on a curve for the Edge."

There were a few silent minutes while they thought it over.

"Probably," said Ramsay, "they didn't expect you ever to catch on. Dysenine effects aren't quite as complete on Terrans as on most people."

"I wonder," mused Fuller with a wicked expression creeping across his features, "what is effective on Kosorians."

"I don't know," said Ramsay. "They never told me."

Fuller reached out to turn on his visor.

"We'll soon find out," he promised.

In the next half hour, Ramsay was treated to a glimpse of the resources behind a B.S.T. representative. Fuller consulted with and gave assignments to chemists, mathematicians, local police, psychologists, news broadcasters, transportation experts, biologists—Ramsay lost track. The Bureau seemed to have contacts in any given organization. Occasionally, questions were asked, but never any beginning with "why."

"That might do it," sighed Fuller finally, leaning back and smoothing his blond mustache with one finger. "As soon as the chemists come through, our friends will get their emergency notice—I suppose it will be 'one of our devastating Terran hurricanes,' or some such thing. At least, it will require them to clear out for their safety."

"Taking their secrets with them?"

"Attempting to, I trust," answered Fuller complacently. "We shall be unsuspecting and completely co-operative. You will be sent to escort them to their assigned rocket and to cut all red tape concerning their departure."

"How will that get your microfilm back?"

"I hope that you will be able to go to the hotel with something really potent in your pocket. When you damp their jets with that, we shall have a battalion in there to search every scrap they intend to take with them. Before they realize what curve they are on, they will be in space."

"Sounds good," said Ramsay, "but I hope you don't underestimate them."

"I hardly dare think of that," said Fuller.

Just then, his visor announced a caller.

At Fuller's response, a man in a laboratory smock scurried into the office. He left the door open behind him, using both hands to cup a small, fragile object.

"Meyers, Chem," he introduced himself tersely. "O'Brien says this may work."

"What is it?" asked Fuller.

"We looked up everything there is about all life forms like what you described. O'Brien picked out four or five of the most sure-shot freezers the Bureau knows. Then we blended them into a solution and sealed a small quantity in this vial. Break that, and you'll have a gas immediately."

He nearly drooled with pride. Ramsay was still hoping it was really that good when he reached the hotel about an hour later. He had a room number to call when he was ready for Fuller's crew. To avoid attention even in the oxygen wing, they were all to be non-Terran.

He let Jack take the aircar up to the parking roof, after warning him to expect anything. Then he went inside and headed for the elevator. Four scaly Centaurians crowded into the car ahead of him, however, and favored him with a quartet of chilly, reptilian stares.

"Must know who I came to see," reflected Ramsay, deciding that he preferred the stairs.

It was only one flight up. He reached the door quickly enough, but paused outside to ease the little vial in his breast pocket. Then he pressed the button which would announce his presence with a musical note and an image on an interior screen.

The door opened in a moment, and he was greeted by Evash. The Kosorian gestured hospitably with one tentacle, and Ramsay stepped in.

He stepped into the tentacle, which neatly completed the welcoming gesture by whipping two turns around his neck. Another steely grip encircled his waist and he was jerked off his feet. He heard the door slam behind him. Then he felt a sharp prick at the nape of his neck. Evash held him in midair for . . . for—Ramsay could not tell how long.

He discovered himself standing again. He was slightly off balance to the left, supported by a Kosorian tentacle. With weird slowness, two other Kosorians progressed into his field of view. Feeling that he was making a poor showing, the spaceman tried to straighten up. He was immediately aware that he had overdone it and was falling to his right. He felt the muscles in his right foot, ankle, and leg straining to correct, but realized they would be too slow. Every other muscle in his body strug-

gled to move left. He regretted that he did not have better control over a particular set in the left small of his back.

Then Evash wrapped a tentacle around the Terran's head and supplied the missing ounce of balance. Simultaneously, the surrounding action speeded up drastically.

"Whatllwedowithm?" hissed Evash.

The other two answered. Ramsay tried to decide whether they took turns or talked together. He seemed to get the first word or so of every sentence. This code was too fast for him, he thought.

"Came . . . coincidence—"

"Feel untruth—"

"Search—"

"Convenient . . . use . . . ship—"

"Aircar—"

"Chauffeur . . . easy—"

"Perfect . . . go—"

"Downstairs . . . go downstairs . . . go . . . with . . . us . . . downstairs . . . go . . . with . . . us—"

Ramsay found himself walking through the door in a web of tentacles. With every step, he was amazed anew that he succeeded in performing the complicated maneuver of moving forward a leg to catch himself as he started to fall.

"Act . . . normal . . . act . . . normal . . . act normal—"

Ramsay noticed that he was plunging furiously down the stairs. The thick carpet at the bottom rushed up at him like the surface of Stegath II the time he had crashed a landing rocket. He almost screamed as a bolt of fear flickered throughout his nervous system.

"Hold back!" he told himself, but the tentacles seemed to shove him along.

In the small of his back, a pore oozed a drop of sweat. Then two on his forehead, and several in his armpits. He was drowning in his own perspiration and heading for a smash at the foot of the stairs.

"Gotta adjust," he thought frantically.

He had been thinking that for hours, but now there was something more important he must do. A voice from somewhere was telling him—

Halfway to the door, he realized he had spoken to the desk clerk, as someone had suggested. A second later, they were outside. Ramsay cursed silently and furiously to try to snap himself out of it. They were getting away and no one seemed to notice anything wrong. Where were all of Fuller's agents?

"Called your aircar at the desk," Evash explained to him. "Pick us up here."

The Kosorian spoke more slowly. No, Ramsay had adjusted again. Everything was slow. He seemed aware of each individual muscle in his body. Staring ahead, he saw the shadow of the descending aircar, and took about a year to think things over while it reached them.

This is the blast off, he thought. *I'll tip Jack off somehow. They won't get any farther.*

They had taken him with commendable neatness. A dysenine needle in the neck. He was theirs. Not a move without suggestion. But he must! Who was to offer him suggestions except the Kosorians? He was lucky to be able to think at all. Probably they had been afraid of killing him, not realizing that Terrans could stand more than most beings thought at first glance.

He must concentrate on letting Jack know. Not too openly, lest his captors notice. Just plainly enough to show something was wrong.

The aircar settled lightly in front of them. As suggested, Ramsay drawled through the explanation that he himself would pilot their guests to the rocket, to spare red tape. The chauffeur need not bother. He watched Jack's features radiate surprise, disbelief, thought, acceptance, suspicion. The man had blinked.

The Kosorians began to creep into the aircar. Ramsay estimated the odds for six different courses of action on Jack's part, ranging from taking the day off to reporting immediately to Fuller that something was wrong. For himself, he knew he was perfectly capable of dashing inside to the desk, calling the B.S.T., dictating a complete report, and rushing back in time to close the door after the last Kosorian.

But somewhere between the decision and the physical action lay a cold, dead, inert vacuum. Instead, he got in.

"Take us up!" suggested Evash.

Ramsay took the aircar up, yearning all the while for enough control to squeeze the vial in his pocket. He wanted almost as

badly to look down and see what Jack was doing. Instead he stared directly at the instrument panel.

"Not so fast," advised Evash.

Ramsay slowed the machine until it seemed to him that they must plummet out of the sky. He counted the revolutions of the overhead rotor from its shadow on the hood, wishing he had the drive to look up at it.

Tom, my boy, he told himself, *no use kidding yourself. You can't break out of this. You'll have to use it against them—like judo, where you use the other guy's strength.*

The Kosorians had him head south, toward the warehouse where the rocket was waiting. He only had a few minutes.

It had to be soon. Some way to avoid doing exactly as they told him. Deliberately misunderstand—no, he must not think that, even if he meant it. Keep it at the back of his mind. Way back. Do exactly as they said, and maybe make up his mind in the middle of doing it.

He must plan . . . something . . . but convince himself that he was not planning rebellion. Must forget that word. Keep his real intentions submerged. Do what they said.

"What is our Terran thinking?" inquired Evash.

"I must do as you wish," answered Ramsay promptly.

"Very good," approved Evash. "Down toward the warehouse."

Ramsay considered the order. "Down toward the warehouse." That was too simple to be ambiguous at all. He glided down. If only he could muster the initiative to lean forward against the wheel and smash the vial! He would get no opportunity to twist their words. He had been a fool to think he would. He strained with every ounce of determination he had to lean forward.

Nothing. He did not even break into a sweat as he had imagined he would. Meanwhile the aircar had swooped near the building, where the rocket waited.

"Land by the ship, like a good little Terran," said Evash sarcastically.

Ramsay gave thorough consideration to the Kosorian's figure of speech, in both languages. He decided that its translated equivalent indicated a Terran child of about a six-year intelli-

gence. Obediently, he slammed the aircar toward the ground with probably the most accurate imitation ever conceived of a six-year-old's skill!

"No, no! Up again!" shrieked Evash frantically.

The aircar smacked against the ground and jolted along for several yards before Ramsay's reflexes obeyed the order to rise. There were a number of dull, thudding blows in the rear as the Kosorians thrashed about with terrified tentacles. Ramsay tried to push himself away from the wheel, against which he had been slapped like a wet rag. He was aware of a sharp stinging in his chest as he reached out to the controls.

"What was I going to do?" he wondered. "Oh, yes, go up."

The aircar rose straight up, its interior quite silent.

Good thing they build them right, thought Ramsay. *Not fragile like— Say! What is that? Yeow!*

He had discovered the pungent smell in the aircar. Also, he was aware that he had made up his own mind about it.

"Maybe I can even turn my head," he thought happily.

He could. It made him feel very gay. The three Kosorians were a tangled mass in the rear, completely relaxed. It seemed very funny. He began to chuckle, then to laugh.

Ramsay guffawed at the top of his lungs all the while he calmly and coldly considered whether he would have time for what was necessary.

About fifteen minutes later, he was still snickering as he crawled again into the front seat.

"I'll kick that O'Brien onto a curve for the Edge," he vowed as he began to hiccup. "What did he put in it anyway? Laughing gas? What a mixture I have in me by now!"

He had not been as lightning fast as the dysenine had led him to imagine; but, in the end, two small strips of film had come to light in a hollow ornament on one of Ozul's tentacles.

Ramsay tucked these into his boot and headed for the warehouse. His landing, beside the building, in front of the rocket, was only slightly drunken, but he expected the guards to remember his earlier try. Surprised when no one molested him, he looked around as he opened a few windows. He saw Jack peering at him from the darkness of an open doorway.

Ramsay beckoned, and the chauffeur sprinted out to him.

"Under control, sir?" he panted.

"Just about," said Ramsay. "Am I glad to see you!"

"I called Mr. Fuller right after you left. We been on your tail one way or t'other ever since."

"Good," said Ramsay, pulling the film strips from his boot. "Here, grab these and clear out fast. Tell them to act around here as if nothing happened."

Jack scorched a trail back to the building. Ramsay, after glancing at the Kosorians, quickly checked his cash and identocard. As soon as he saw another aircar rise from behind the rocket and speed off to the north, he leaned forward over the wheel, head in arms. When they came to, so would he.

Later, he watched Fuller's eyes gleam as the B.S.T. man poured a pair of drinks.

"Did they know?" he asked Ramsay.

"I doubt it," said the spaceman. "I don't think they knew any better than I did exactly how long we were up. We exchanged compliments before they went aboard the rocket."

"What did they have to say?"

"Oh, their usual line. They hated to part from me, but hoped to make a better profit at their next stop, since they would surely have less brilliant people to deal with."

"What did you tell them?"

"Said I'd never dream of being on Terra the next time they came, because I don't have the brains to keep up with them. They hoped so, as they wouldn't dare try any sharp deals if I were. Anyway, they had some other places in mind."

"Other places," mused Fuller. "That sounds good. Those were the films, but do you think they will figure it out?"

"Sure," said Ramsay. "Evash will come back to the time he can't remember between landing and getting out. He'll catch on. That's what I'm enjoying!"

"That leaves only one or two details," said Fuller. "I intend to stretch a point because you have been of considerable assistance."

"*What*?" asked Ramsay.

"That ten pounds of dysenine you had—very clever to have it crystallized to look like cheap jewelry. One of our men checked your quarters. Routine, you know."

Ramsay had visions of being dismissed with no other wages than this "favor" he had not known he needed.

"Listen," he said, "was the stuff hard to find? Or was it practically in plain sight? It sounds like something Evash would have thought was funny."

Fuller reflected. He nodded slowly.

"I dare say that was it," he said. "Well, the Bureau will send a suitable fee around to your hotel tomorrow. I intend to include my own little letter of recommendation. You will be surprised how much help it will be—in the most unexpected places."

"I can imagine," grinned Ramsay.

"You think you can!" said Fuller. "Sorry, I shall have to have back the identocard. It gives its bearer *carte blanche*, and might prove embarrassing to us."

"Sure," said Ramsay, reaching for his credit folder.

He noticed that Fuller refrained from questioning the thick stack of credits he removed to look for the card. The Bureau was not niggardly, whatever its slick practices. He should have the card by now; there did not seem to be any more compartments in which to look.

"Do you mean to tell me—?" began Fuller, choking.

Ramsay's shoulders drooped. He nodded sadly.

Fuller sat motionless for several moments. The spaceman thought his complexion darkened some. His expression froze.

Then, with perfectly bland features, Fuller reached out for the glass from which he had been drinking. He raised it shoulder-high and hurled it against the far wall of the office. Ramsay ducked instinctively as the splinters flew.

The Bureau man drew a long breath. He smoothed down his mustache with a trembling finger.

"Oh, well," he sighed, "they're gone!"

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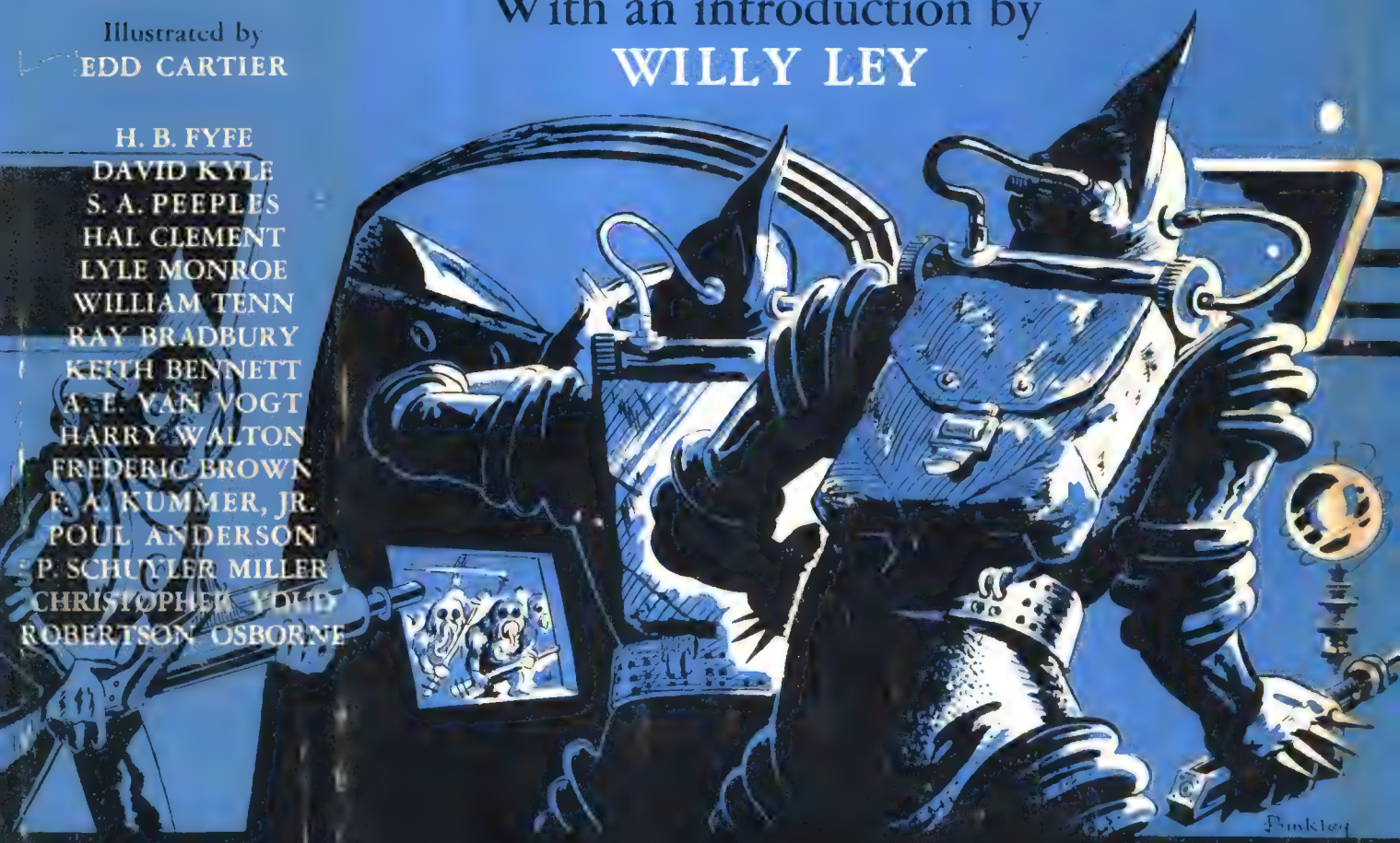

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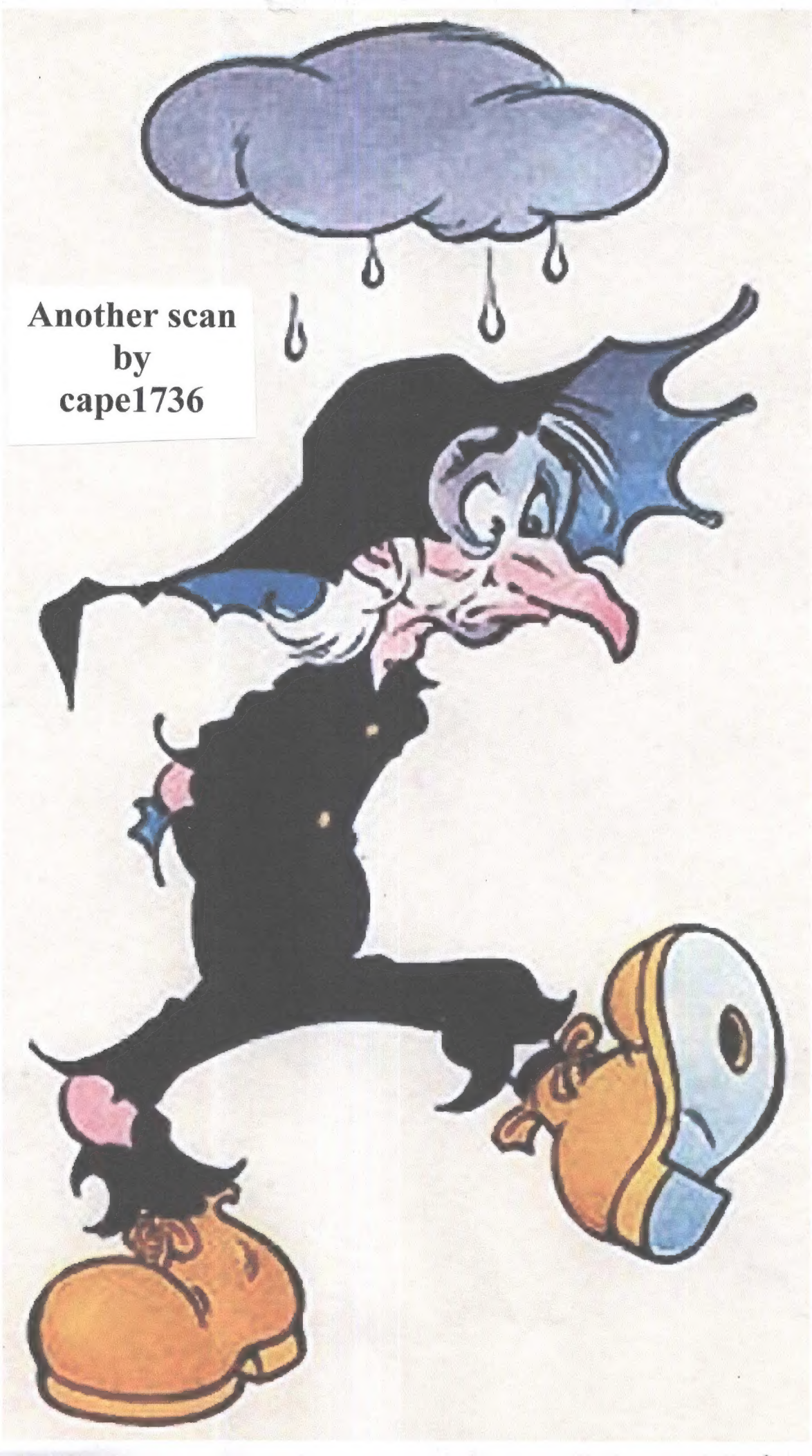
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